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CLINICAL STUDY OF NATURAL INFECTION BY *Trypanosoma cruzi* IN DOGS RESIDING IN A RURAL AREA IN MATO GROSSO DO SUL STATE, BRAZIL

Thesis: A. I. Souza submitted this thesis for her Doctorate in Veterinary Medicine at the School of Agrarian Sciences and Veterinary Medicine, São Paulo State University, UNESP, Jaboticabal, São Paulo State, Brazil, 2007.

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ABSTRACT: This study was carried out to describe the clinical characteristics of natural infection caused by *Trypanosoma cruzi* in dogs that reside in a rural area of Mato Grosso do Sul State, Brazil. Conventional and nonconventional diagnostic methods were used for screening *T. cruzi* infection in 75 dogs that lived in the area. Cardiovascular tests and biochemical examination of sera were also performed in four confirmed positive dogs. The following techniques were employed: indirect immunofluorescence test (IFAT), enzyme-linked immunosorbent assay with *T. cruzi* epimastigote antigens (EAE-ELISA) and enzyme-linked immunosorbent assay with *T. cruzi* excreted-secreted trypomastigote antigens (TESA-ELISA) with antibodies detected in 45.33% (n = 34), 24.0% (n = 18) and 12.0% (n = 9) of the dogs, respectively. The current prevalence of the infection was confirmed as 10.7% (n = 8) by immunoblotting test with *T. cruzi* excreted-secreted antigens (TESA-blot). The test that showed the best concordance index (Kappa; 0.93), sensitivity (100%) and specificity (98.5%) was TESA-ELISA, that when associated with IFAT had the same results as those obtained by TESA-blot (10.7%). Three out of the four chagasic animals showed enlarged cardiac silhouette on X-ray and an increase of the P-wave duration and QRS complex in electrocardiogram. Two dogs presented conduction disturbances, right bundle branch block in one dog and first-degree atrioventricular block and sinus arrest in another. The ecodopplercardiography presented left-ventricular-wall thickness increased during diastole, decrease of the shortening fraction and inversion in the speed peaks of the E and A waves, indicating the presence of systolic and diastolic disorders. The four animals showed enzymatic activities of creatine kinase (221-404 U/L), MB fraction of creatine kinase (189-304 U/L), elevated total proteins (7.6-10.2 g/dL) and total globulins (4.6-7.7g/dL) and reduction of albumin/globulin ratio, which suggested a myocardial injury and continuous antigenic stimulus.

KEY WORDS: Chagas' disease, myocarditis, TESA-blot, TESA-ELISA *Trypanosoma cruzi*.

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