



Diagnosis and epidemiology of canine leishmaniasis in southeastern Bahia, Brazil

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ABSTRACT. Leishmaniasis is a disease caused by protozoa of the genus *Leishmania*. Two distinct forms are recognized: visceral leishmaniasis (VL) and cutaneous leishmaniasis (CL). In the Americas, the causative agent of VL is *L. infantum chagasi*, whereas *L. braziliensis* is principally responsible for CL. Domestic dogs constitute the main source of VL in urban environments, and have also been implicated in CL epidemiology. We carried out molecular and serological surveys to detect *Leishmania* infection in dogs from the municipality of Ituberá in Bahia, Brazil. Furthermore, we identified risk factors associated with illness in dogs from this locality. Blood samples were collected from 399 dogs and tested using an indirect immunofluorescence assay

(IFA) and polymerase chain reaction (PCR) to detect *Leishmania* spp antibodies and *L. infantum chagasi* and *L. braziliensis* DNA, respectively. Dogs were clinically evaluated and tissue samples from those exhibiting skin lesions were examined for parasites. In addition, the dog owners completed an epidemiological questionnaire to identify factors associated with infection. Skin lesions consistent with CL were found on 37 (9.3%) of the evaluated animals, but parasitological examination was negative for all samples. The IFA returned positive results for 60 (15%) dogs. PCR identified DNA from *L. braziliensis* in 86 (21.6%) animals, where as all samples proved negative for *L. infantum chagasi*. The 134 dogs (33.6%) testing positive using IFA and/or PCR were considered infected, and of these, only 13 demonstrated skin lesions. Animals from rural areas were 3.39-times more likely to be infected compared to those in urban environments.

Key words: *Leishmania* spp.; Dogs; Serology; Molecular biology; Risk factors