Radiographic and parasitological study of synovial fluid and articulation of a dog with canine visceral leishmaniasis naturally infected

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*Leishmania* sp. is the etiologic agent of zoonotic visceral leishmaniasis, which mainly affects regions that extend from the southern US to northern Argentina. Transmission of the disease usually occurs when the insect vector (*Lutzomyia longipalpis*) inoculates the metacyclic promastigotes forms in the vertebrate hosts, through the blood feeding. In symptomatic dogs, infection results in varied clinical manifestations, such as cachexia, dermatitis, onychogryphosis, hepatosplenomegaly, keratoconjunctivitis among others. The circulation of parasites or their immunocomplexes may still affect the locomotor system of dogs causing joint and bone lesions, in addition to chronic claudication associated with polyarthritis. Radiographically, in the diaphyses of long bones, patella and pelvis of these animals it is possible to observe a high periosteal reaction, with cortical and medullary damages, while in the joints the presence of osteolytic lesions is observed. Thus, considering the destructive osteoarticular potential of leishmaniasis and the absence of specific studies relating the alterations in the locomotor system with the presence of this, the present work has the objective of reporting the occurrence of amastigote forms of *Leishmania* sp. in the synovial fluid of a naturally infected dogs. Animals 2 years-old, with no defined breed, positive for *Leishmania* sp. was attended at the Small Animals Clinic of the Veterinary Hospital of the State University of Maranhão (HVU-Uema). Therefore, additional laboratory tests (X-ray) and fine needle aspiration of the synovial fluid were performed. The slides containing the swab material were subsequently fixed and stained using rapid panóico stain. Bone marrow samples, lymph nodes, spleen and skin lesions are currently used for the parasitological diagnosis of leishmaniasis in naturally infected dogs; however, the use of synovial fluid for this purpose has been rarely reported. A study performed the parasitic analysis of synovial fluid of 40 dogs naturally infected with *Leishmania* sp, found the parasite in the amastigote form in macrophages and neutrophils of the synovial fluid or free in the synovium of 35 of the animals examined, concluding that the parasitological examination of synovial fluid is viable with 87.5% of positivity. Based on the assumption that dogs infected with Visceral Leishmaniasis present locomotive disorders associated with the disease, such as polyarthritis, but there is still contradiction in studies that seek to prove this correlation, it is necessary to do more research and reports so that the radiographic evaluations of the Articulations of the infected animals serve as a complementary examination, offering greater safety in the prognosis and treatment of the animals affected by canine visceral leishmaniasis.

**Keywords:** Leishmanioses, Articulation, synovial fluid