C1730 COMPARATIVE STUDY BETWEEN SOROLOGICAL IMMUNOCROMATOGRAFIC METHODS, ELISA AND INDIRECT IMMUNOFLUORESCENCE FOR THE DIAGNOSIS OF CANINE VISCERAL LEISHMANIASIS

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1 Background

The diagnosis of canine visceral leishmaniasis (CVL) is a great challenge for veterinary practice. The detection of antibodies in the serum of dogs has been the main diagnostic tool used throughout the world. The emergence of rapid immunochromatographic tests (RIT) offered the possibility of short-term diagnoses, providing collective and individual interventions that are more economical, practical, agile and, therefore, show greater perspectives of efficiency. However, some issues are relevant when it comes to the reliability of the negative or positive results.

2 Methods

Among the existing RITs, this study evaluated the correlation between Kalaazar Detected® InBios International rapid test, ELISA and Indirect Immunofluorescence technique (IIF). While the last two were carried out at the Biological Sciences Institute (ICE-UFMG), for the diagnosis of LVC. 120 dogs of different races, sex and ages, from which samples of blood, bone marrow and skin were collected for anti-Leishmania antibodies and Leishmania sp testing. The dogs were divided into four groups, according to the IIF titer: Group I - 34 were non-reactive (28%); Group II - 37 were reactive at titers of 1:40-1:80; Group III - 23 reactive at titers of 1:160-1:320 and group IV - 26 reactive at titers equal to or greater than 1:640.

3 Results

In group I, out of the 34 non-reactive in the IIF, 08/34 (24%) were positive ELISA and 06/24 (18%) in the RIT. From this group, seven animals were parasitologically positive, and among them, 03/07 (43%) were positive in the ELISA and 01/07 (14%) in the RIT. In group II, out of the 37 animals 1: 40-1: 80, all (100%) were positive in the ELISA and 17/37 (46%) in the RIT. In this group, 11 animals were parasitologically positive and, of these, 07/11 (64%) in RIT. In group III, out of the 23 dogs 1: 160-1: 320, all were positive in ELISA and 16/23 (70%) in RIT. Among these animals, 13 were parasitologically positive and 12/13 (92%) in RIT. Group IV, among the animals with titers equal to or greater than 1:640, resulted positive in ELISA and 24/26 (92%) in RIT. In this group, 20 had positive parasitological tests and all were also positive in RIT.

4 Conclusions

The intercorrelation between both tests is directly proportional to the titers of anti-Leishmania antibodies and none of them was able to identify all animals that tested positive for parasites. Out of titers 1:40-1:80 there was greater correlation between IIF and ELISA than between RIT and IIF or RIT and ELISA.