MILTEFOSINE SUSCEPTIBILITY OF ISOLATES OF LEISHMANIA (LEISHMANIA) INFANTUM FROM DOGS OF THE MUNICIPALITY OF EMBU-GUAÇU, BRAZIL

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Abstract

Visceral leishmaniasis (VL) is a parasitic disease caused by the protozoan Leishmania (L.) infantum. In Brazil, the number of cases of the disease has increased in the last years. The treatment of leishmaniasis in Brazil consists of the use of pentavalent antimonials and amphotericin B. Recently, miltefosine has been shown to be highly effective against VL in Asia. Although, this drug is not used in the treatment of VL in Brazil, miltefosine is approved for use in the treatment of canine visceral leishmaniasis (CVL). In this study, we evaluate the susceptibility to miltefosine in vitro of isolates of L. (L.) infantum from dogs of municipality of Embu-Guaçu, located in the metropolitan region of the city of São Paulo.

Key words: visceral leishmaniasis, Leishmania infantum, miltefosine, drug susceptibility.

Results and Discussion

Previously, isolates were typed by Instituto Oswaldo Cruz, FIOCRUZ, RJ, Brazil according to the protocol described by Cupolillo et al., 1994 and then confirmed by polymerase chain reaction (PCR) of hsp70 gene followed by digestion with the restriction enzyme Hae III (Fig. 1A and 1B). The in vitro susceptibility of isolates and the reference strains of L. (L.) infantum from dogs that are potential reservoirs of the disease in Brazilian endemic regions.

Conclusions

The results obtained in this study will contribute to evaluate the potential of miltefosine against isolates of L. (L.) infantum from domestic dogs, the most important reservoir of VL in urban areas in Brazil.

Acknowledgement

We thank Silvia R. B. Uliana from Universidade de São Paulo for providing the L. (L.) infantum reference strains. This work is funded by Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP 2016/21171-6). BAF is supported by FAPESP fellowship (2017/18488-0).

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Figure 1. A. PCR amplification of the hsp70 gene (1,286 bp). B. Digestion of the PCR amplified product with the restriction enzyme HaeIII. Legend: 1- L. (L.) infantum LD; 2- L. (L.) infantum NCL; 3- CVL1; 4- CVL2; 5- CVL3; 6- CVL7; 7- CVL8; 8- CVL9; 9- CVL10; 10- CVL13; 11- CVL14; 12- CVL17; 13- CVL18; 14- CVL19; 15- CVL20; 16- CVL22; 17- IMTS 14; 18- L. (L.) amazonensis (MHOM/BR/1973/M2269); 19- L. (V.) braziliensis (MHOM/BR/1975/M2903); 20- L. (V.) guyanensis (MHOM/BR/1975/M4147). C. EC50 values determined against promastigotes of isolates from dogs.