C1446 EVALUATION OF THE POTENTIAL OF INFECTIVITY OF DOGS WITH VISCERAL LEISHMANIASIS AND TREATED WITH MILTEFOSINE BY USING A XENODIAGNOSIS


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1 Background
Various authors believe that the reduction in or the absence of clinical manifestations in leishmanian dogs could reduce the infectivity of phlebotomines (Travi et al., 2001; Courtenay, 2002). In this study, the clinical benefit of Milteforan® (Virbac, France) was compared with xenodiagnosis.

2 Methods
Dogs naturally infected with Leishmania infantum, and diagnosed as suffering from Visceral Leishmaniasis (VL) were included in the study and maintained in a test kennel built with 3 screened divisions for phlebotomine entrance blocking. A CDC trap was placed in the kennels in order to observe any possible insect invasion. Visual inspection of the screens was also daily performed. All the dogs received Milteforan® orally at the standard dose regimen of 2mg/kg b.w. for 28 days. To avoid any interference in the xenodiagnostic exam, no ectoparasiticide was administered. Efficacy criteria was the decrease in transmission through the reduction or absence of the number of promastigote variants in the gut of the vector submitted to xenodiagnosis.

3 Results
36 dogs with VL were randomly subdivided into 3 groups of twelve, all receiving Milteforan®. At W0 (before treatment) and W12 (3 months after the end of treatment), the dogs were sedated and exposed to phlebotomines (L. longipalpis phlebotominae colony) for 60 minutes. Then, anaesthetised phlebotomines were dissected for parasite count in the insect intestine. Quantity of females infected and not infected was determined and intensity of infection was categorized according to quantity of parasites (weak to strong infection). At W0, 51.4% of the dogs were infectious for the phlebotominae while 74.2% of them were negative at W12, amongst which 92% also showed a strong reduction in CS (average reduction 67%). Of the 9 dogs positive in the xenodiagnosis at W12, 89% of them had a high CS at W0, but all of them showed a reduction in CS at W12 (average 66%). The results observed in the xenodiagnosis were correlated to the CS and qPCR results in the NL, BM and skin samples.

4 Conclusions
This study allowed to demonstrate a significant clinical improvement of the treated dogs with Milteforan®, linked to a reduction of parasite load in the BM, NL and skin samples, highly correlated to the xenodiagnosis, making 74.2% of the animals non-infectious for the phlebotominae.