

SUMMARY

Health management of canine leishmaniasis in a kennel located in an endemic area: development of an innovative control and prevention plan.

Key words: *Leishmania infantum*, prevention, control, kennels, Italy.

The aim of this project was to study canine leishmaniasis within a kennel to identify reliable diagnostic, therapeutic and prophylactic measures for effective management according to animal welfare and cost savings. The identification of infected dogs is relevant in public health.

Leishmaniasis is a zoonotic disease and the dog is the main reservoir in our country. Within the selected kennel, phlebotomine sand flies catches were performed, using different types of traps, during two seasons of vector activity. All catches gave negative results confirming the effectiveness and importance of a regular environmental anti-phlebotomine treatments. Forty-six dogs were enrolled, 8 were found negative by *L. infantum* IFAT and 38 were positive with titre $\geq 1/80$. Among 46 initially enrolled dogs, 31 were suitable for the evaluations required by the project at the end of the study. The animals were monitored by physical examination and periodic blood sampling. The following analyses and parameters were performed: indirect immunofluorescence, real-time PCR, cytological examination, blood chemistry, complete blood count and serum electrophoresis. Thirtyone

dogs were staged according to G.S.L.C. criteria as follows: n. 4 not exposed; n. 6 exposed (A); n. 2 infected (B); n. 13 sick (C); n. 1 uncertain classification (A / B / C); n. 3 uncertain classification (A / B); n. 2 uncertain classification (A / C). The treatment was performed using N-methylglucamine (meglumine) antimoniate, miltefosine, domperidone and allopurinol based on the stage of the disease. A specific software was developed to allow the acceptance of samples remotely. This software is suitable to record anamnestic data, clinical and laboratory data and to perform automatic

extraction of results and to produce reports. This tool is useful in managing individual patients as well as in those situations that require data processing and analysis. Among the evaluated parameters, those found most frequently abnormal in sick dogs were: IFAT titre against *L. infantum*, total proteins, albumin/globulin ratio, red blood count and haematocrit; these parameters

should always be included for the diagnosis. The most frequently altered parameters we observed during monitoring were creatinine, urea nitrogen and phosphorus, in addition to those already mentioned. All those parameters should be evaluated during the follow-up.