

Canine filarial infections in Liguria, north-west Italy

M. Magi ^(a1), L. Guardone ^(a1), W. Mignone ^(a2), G. Monni ^(a1) ... 

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Abstract

This paper reports the findings of a study on the presence of various species of filarial nematodes in dogs in Liguria, north-west Italy, a region traditionally considered free from the disease. Between 2009 and 2012 blood samples were taken from 365 dogs in rural areas in Liguria. The blood samples were then submitted to Knott's test, histochemical staining, polymerase chain reaction (PCR) and the enzyme-linked immunosorbent assay (ELISA) for *Dirofilaria immitis* antigens. Overall, 35 of the 365 dogs were positive using Knott's test for microfilariae (prevalence 9.6%; 95% confidence interval (CI): 6.6–12.6%). *Acanthocheilonema reconditum* was the most prevalent species (8.0%), while *Dirofilaria repens* (1.4%) and *Dirofilaria immitis* (0.6%) were less common. One co-infection by *D. repens* and *A. reconditum* was observed. All morphological identifications were confirmed by histochemical staining and PCR. In addition, a retrospective analysis of data on *D. immitis* antigens in 11,363 samples of canine sera was carried out. Sera were collected and analysed for *D. immitis* antigens by the Istituto Zooprofilattico Sperimentale (IZS) of Piedmont, Liguria and Aosta Valley (Imperia section) between 2004 and 2013 during annual tests for leishmaniasis on autochthonous dogs throughout Liguria. Serological data from IZS showed an overall seroprevalence of 0.65% (95% CI: 0.50–0.80%) for *D. immitis* throughout the region. The present study updates the epidemiological map of canine filarial infections in Italy and suggests the need for surveillance and prophylaxis in Liguria.