

Occurrence of filaria in domestic dogs of Samburu pastoralists in Northern Kenya and its associations with canine distemper

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Abstract:

Samples of blood (serum, smears and blood preserved with ethanol) were collected from dogs during a vaccination campaign in northern Kenya in the years 2006 and 2007. Blood was screened for filarial parasites using molecular and microscopy methods and sera were tested for antibodies against canine distemper virus (CDV). Parasitological examination revealed the presence of two species of canine filariae: *Acanthocheilonema dracunculoides* and *A. reconditum*. The DNA from the former species was detected in 58% dogs sampled in 2006 and 36% dogs sampled in 2007, whereas the latter was found only in 4.2% samples collected in 2007. Microfilariae were found in 33.8% blood smears collected in 2006 and 10.6% blood smears collected in 2007. The seroprevalence of CDV was 33.4% in 2006 and 11.2% in 2007. The effect of sex, age and CDV-seropositivity/seronegativity on the occurrence of *A. dracunculoides* was evaluated. Infection by *A. dracunculoides* was more common in males and in dogs with a positive antibody titer for canine distemper, but evenly distributed among different age groups. The difference in the prevalence of *A. dracunculoides* in two isolated mountain ranges was not statistically significant. Methodologies available for detection and determination of canine filariae are compared, underlining methodical pitfalls arising through the determination of less common filarial species. The role of single epidemiological factors and possible association between canine distemper and filariasis are discussed.