

# THE EPIDEMIOLOGY OF *DIROFILARIA IMMITIS* INFECTION IN OUTPATIENT DOGS AT CHIANG MAI UNIVERSITY SMALL ANIMAL HOSPITAL, THAILAND

Chaovalit Boonyapakorn<sup>1</sup>, Lertrak Srikitjakarn<sup>2</sup>, Nimit Morakote<sup>3</sup> and Franz Hoerchner<sup>4</sup>

<sup>1</sup>Small Animal Clinic, Faculty of Veterinary Medicine, Chiang Mai University; <sup>2</sup>Division of Veterinary Public Health, Faculty of Veterinary Medicine, Chiang Mai University; <sup>3</sup>Department of Parasitology, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand;

<sup>4</sup>Department of Parasitology, Faculty of Veterinary Medicine, Free University, Berlin, Germany

**Abstract.** Five hundred eighty-nine dog blood samples from the small animal hospital of Chiang Mai University were examined for *Dirofilaria immitis* prevalence using a microhematocrit tube technique for microfilaria detection. In parallel, a once a month follow-up study on 36 *D. immitis* negative dogs was conducted to detect the time of acquiring infection in each animal. The diagnostic criteria for the incidence study was based on microfilaria detection or on positive findings against *D. immitis* antigen using the Witness<sup>®</sup> commercial kit. The estimated prevalence was 18.2% (15-21%; 95%CI). There was no statistical difference between male and female infection rates. The age-specific prevalence of dogs under 2 years old was 6.4%, which was lower than the 2-4 year old group and all the other age groups at a 95% confidence level. In older dogs the prevalence reached 41.5%. Most of the dogs housed outdoors had a statistically higher infection rate than the dogs housed indoors (chi-square = 9.662, 1 df, p = 0.002). Only 109 dogs received chemoprophylaxis resulting in a significantly lower infection rate than in the non-heartworm prevention dogs (chi-square = 14.424, 1 df, p = 0.000). The overall incidence density and the incidence during the rainy, cool and hot seasons were 5.2, 6.9, 3.5, and 2.7 animals per 100 animal-months, respectively. The incidence rate ratio between wet/dry, rainy/cool, rainy/summer, and cool/hot seasons were 2.18, 1.98, 2.59 and 1.30, respectively. The 95% confidence interval revealed no difference among seasons. In conclusion, dogs in *D. immitis* endemic northern Thailand contract infection in about 2 years.

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Correspondence: Dr Lertrak Srikitjakarn, Faculty of Veterinary Medicine, Chiang Mai University, Chiang Mai 50100, Thailand.

Tel: 66 (053) 948-002 Fax: 66 (053) 274-710

E-mail: vmilsrkt@chiangmai.ac.th