Seroepidemiologic survey of Dirofilaria immitis infection among domestic dogs in Taipei City and mountain aboriginal districts in Taiwan (1998-1999)

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Abstract

To estimate the seroprevalence of Dirofilaria immitis infection in domestic dogs in Taiwan, we utilized a commercial ELISA kit (Snap, IDEXX, USA) for detecting circulating antigens released by adult female worms. Serum specimens of 664 domestic dogs sampled from Taipei City in northern Taiwan and 14 mountain aboriginal districts in eastern Taiwan were screened for D. immitis antigens. Multivariate-adjusted odds ratios (ORs) with their 95% confidence intervals (CIs) were estimated by multiple logistic regression analysis. A total of 89 subjects were antigen-positive, giving a seroprevalence of 13.4%, of which the seroprevalence in Taipei City and mountain aboriginal districts were 13.8 and 12.1%, respectively. The mean overall seropositive rates were 6.3% in 1-3-year-old age group, 14.1% in 3-6-year-old age group and 23.7% in the > or =6-year-old age group. The older the age, the higher the seroprevalence (OR=4.6, 95% CI=2.4-9.0 for the > or =6-year-old age group versus 1-3-year-old age group, P<0.001) for all the dogs in the present study. Moreover, seroprevalence was not different between female and male dogs in either Taipei City or mountain aboriginal districts (P>0.05). Also, no significant difference in seroprevalence among dogs between the two geographical areas was found (P>0.05). In the logistic regression analysis, the seroprevalence of D. immitis remained significantly increased with age after multivariate adjustment in the present study. To our knowledge, this is the first report on the status of D. immitis infection in domestic dogs in Taipei City and mountain aboriginal districts in Taiwan to date.