

Distribution of canine leishmaniosis in Kosovo dogs based on region, gender, age, and breed

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Abstract

Canine leishmaniosis is a zoonotic disease caused by a parasite of the genus *Leishmania* that is transmitted by Phlebotomine sand flies. *Leishmania infantum* is the species responsible for a zoonotic form of the disease where dogs are reservoir hosts. This study was conducted in 2021 and 2022 in all seven regions of Kosovo to determine the distribution of canine leishmaniosis and to assess the role of different variables such as region, gender, age, and breed in its spread. The sera collected from stray dogs, farm dogs, and private household dogs were serologically examined by enzyme-linked immunosorbent assay (ELISA) and confirmed by an indirect fluorescent antibody test (IFAT). All variables were measured and compared. Based on the distribution by region, the Prishtina region had the highest rate of seropositive dogs at 8.0% (4 out of 50), followed by the Prizreni region at 5% (2 out of 40), Ferizaj region at 5% (2 out of 40), Gjakova region at 5.0% (2 out of 40), Peja region at 2.86% (1 out of 35), Gjilani region at 2.5% (1 out of 40). All samples from the Mitrovica region tested negative (0 out of 40). Of 141 males and 144 females included in the study, only 8 males and 4 females were positive. The age variable was significant as all 105 dogs under 3 years of age were negative, whereas the dogs between 3-4 years of age were 3.33% seropositive, 4-6 years of age were 8.96% seropositive, and the dogs older than 6 years were 7.55% seropositive. The breed variable did not have any significant impact. Only 4 pure breed dogs out of 109 were seropositive (3.67%), whereas, from 176 mixed breed dogs, only 8 were seropositive (4.55%). The present study confirmed that canine leishmaniosis remains endemic in Kosovo, and poses a public health risk. These results emphasize the need for stronger surveillance and control of this zoonotic disease.

Key words: *Leishmania infantum*, dogs, distribution, Kosovo.