Survey Research Concerning the Main Items of Clinical Suspicion in Dog Lyme Borreliosis and its Options of Confirmation

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Abstract. Dog Lyme borreliosis is a tick-borne disease caused by spirochete species of the Borrelia burgdorferi group, commonly expressed by lameness, swollen joints, and fever. The real image of the disease within the group of small animal practitioners is not known in Romania. A right starting point is to develop a survey research, using telephone interview or internet survey. To describe the attitudes and opinions of the veterinary medicine practitioners concerning the main clinical signs associated with Lyme borreliosis and diagnostic tools used if the disease is suspected in dogs, 20 veterinary clinics from Romania were included in a survey research by telephone interview. The interview consists in ten simple questions; eight questions were focused on clinical features and two questions on confirmatory procedure of diagnostic. Clinical syndromes commonly associated with canine Lyme disease by veterinary practitioners in small animals were neuronal disorders (80%), fever (75%), polyarthritis (70%) and glomerulopathy (65%). Only 50% veterinary clinics are able to perform serological test for Lyme disease in dogs and 70% of clinics collaborate with specialized laboratory of diagnostic. Serological testing was made for dogs with history of tick attack in 15% cases, for dogs with febrile syndrome in 20%, and lameness in 70%. The clinical signs of Lyme disease in dogs still rise questions in order to be suspected by the Romanian veterinarians. However, several veterinary clinics are still reluctant to hold screening tests in own clinics, but in 70% require confirmatory diagnostic in specialized laboratories.

Keywords: Borrelia burgdorferi, Lyme disease, veterinary practitioners survey

Introduction. Lyme borreliosis is a tick-borne zoonotic disease produced in Europe by Borrelia burgdorferi sensu stricto, Borrelia afzelii, Borrelia garinii and Borrelia valaisiana (Rauter and Hartung, 2005). Frequently, infection in dogs is symptomless (Wlodarek et al., 2013). When signs are present are involved musculoskeletal system, neurological system, heart and kidneys; commonly dogs develop polyarthritis and glomerulopathy (Littman et al., 2006; Wlodarek et al., 2013). In the last years, the detection of Lyme borreliosis in dogs increased significantly, and this is mainly due to the new in-clinica methods of diagnosis (e.g. SNAP®4Dx® Plus Test, IDEX X) (Littman et al., 2006; Eberts, 2013). In Romania, only few scattered studies and metaanalyses concerning prevalence of Borrelia burgdorferi in Europe were conducted and can not give full information about the true pattern of this infection in Eastern Europe (Coipan and Vladimirescu, 2010, Crăcea et al., 1988; Rauter and Hartung, 2005). To evaluate whether the infection is underdiagnosed, should be checked the level of the Lyme borreliosis suspicion in veterinary clinics. Today, the real image of the disease within the group of small animal practitioners is not known. A right starting point is to develop a survey research, using telephone interview or internet survey. A survey consists of preset questions that are given to receive simple answers from the specimen target group (small animal veterinary practitioners from Romania).

Aims and objectives. The research aims is surveying the attitudes and opinions of the veterinary medicine practitioners concerning the main clinical signs associated with Lyme borreliosis and diagnostic tools used if the disease is suspected in dogs. The objective is to identify the strengths and weaknesses of the veterinary medicine practitioners in Lyme borreliosis in dogs.
Materials and methods. 20 veterinary clinics from Romania where included in the survey research. The survey method used has been telephone interview. The interview consists in ten simple questions; eight questions were focused on clinical features and two questions on confirmatory procedure of diagnostic.

Results and Discussion. Clinical syndromes commonly associated with canine Lyme disease by veterinary practitioners were neuronal disorders (80%), fever (75%), polyarthritis (70%) and glomerulopathy (65%). Littman et al. (2006) analised several clinical reports and experimental infection studies and concluded that “for Lyme disease in dogs, Koch’s postulates have only been satisfied for a syndrome of transient fever, anorexia, and arthritis, which was detected only in puppies. In small numbers of field cases, renal, cardiac, neurologic, or dermatologic manifestations have been attributed to Borrelia burgdorferi infection of dogs, but these syndromes have not been reproduced in experimental models.” (Littman et al., 2006). In light of these data, we understand why there are differences from one to another veterinary office in clinical suspicion of disease. On the other hand, only half of the veterinary clinics are able to perform serological test for Lyme disease in dogs and 70% of them are working with specialized laboratories. Serological testing was made for dogs with history of tick attack in 15% cases, for dogs with febrile syndrome in 20 %, and lameness in 70%. To increase the level of confidence of Lyme borreliosis diagnosis is recommended that the presumptive diagnosis should include epidemiological data concerning exposure to tick bite, clinical signs observed in dogs to have been described in Lyme disease and other similar diseases have already been excluded (Littman et al., 2006).

Conclusion. The clinical signs of Lyme disease in dogs still rise questions in order to be suspected by the Romanian veterinarians and several veterinary clinics are still reluctant to hold screening tests in own clinics. A significant proportion of veterinary clinics (70%) require confirmatory diagnostic in specialized laboratories.

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