

the follow-up (respectively 1.4 ± 0.8 , 2.9 ± 1.5 and 3.5 ± 2.8 years of age). Diagnosis of leishmaniosis was confirmed in 20/31 (34%) dogs for the NVNR group, 10/63 (15.9%) dogs in the NVR group, 0/63 (0%) in the VNR and 0/83 (0%) in the VR group.

CaniLeish™ vaccine (Oliva et al., 2014; Martin et al., 2014; Moreno et al., 2014), in addition or not to repellents, prevented the development of an active *Leishmania* infection in all (146/146) dogs. Unvaccinated dogs treated with repellents were 9.6 time less likely to develop a leishmaniosis infection than untreated dogs. Vaccination and/or the use of repellents decreased the risk of leishmaniosis in at-risk dogs.

OA23.06 Leishmaniosis in Vaccinated Dogs: Clinical Aspects

Rubén Fojí¹, Glòria Pol¹, Jerónimo Carnés³, Pilar Brazis¹, Lluís Ferrer²

¹LETIPharma, Animal Health, B.U., Barcelona, Spain, ²Animal Medicine and Surgery Department, Faculty of Veterinary Medicine, UAB, Bellaterra, Spain, ³LETIPharma, R & D Allergy & Immunology, Madrid, Spain

The approval by the EMA of two vaccines against canine leishmaniosis (CanL) has been a major step in the control of this zoonosis in Europe. In recent years, hundreds of thousands of dogs have been vaccinated. However, the impact of vaccination on the disease epidemiology and on the health of individual dogs has yet to be evaluated. According to published data both licensed vaccines have an efficacy of protection close to 70%, meaning that some vaccinated dogs develop the disease. The characteristics of the disease in vaccinated dogs is of major importance.

The objective of this study was to characterize the clinical aspects of leishmaniosis in dogs vaccinated against the disease with LetiFend® (Protein Q-vaccine).

Forty-six vaccinated dogs were diagnosed with CanL based on clinical signs, clinicopathologic abnormalities (complete blood count, serum biochemistry, urinalysis) and positive serology (ELISA and IFAT). All

dogs were followed for a minimum of six months. Dogs belonged to 20 different breeds and the mean age was 3,9 years. The mean time between vaccination and diagnosis of CanL was 10 months (range: 4 to 16 months) and the majority of cases (41/46 dogs, 89%) had been treated with topical insecticides-repellents. At time of diagnosis, 4 dogs were considered to have the disease in stage I (Leishvet-classification), 33 in stage II, 8 in stage III and 1 in stage IV. Twenty-three dogs (50%) had low-medium IFAT titers, and the rest had medium-to-high titers. In most cases (33/46, 72%), dogs received the standard treatment (N-methyl-glucamine-antimoniate or miltefosine and allopurinol). After six months, 43/46 dogs (94%) were still alive and 78% were free of clinical signs. Anti-*Leishmania* antibody titers (IFAT) dropped considerably and 33/35 (94%) were negative or had low-medium titers.

Altogether, these data seem to indicate that the disease in vaccinated dogs presents a mild clinical course.

OA24 Nematode Molecular Tools, Resistance II

July 9, 2019, 13:30 - 15:30

Breakout Room 4, Hall of Ideas G&J, Level 4

OA24.01 Identification and Biochemical Characterization of Three Conserved *Haemonchus contortus* Cathepsin B-like Proteases

Dr. Mariam Bakshi^{1,2}, Dr. Dante Zarlenga¹
¹USDA-ARS, Beltsville, United States, ²Oak Ridge Institution for Science and Education, Oak Ridge, United States

The trichostrongyle, *Haemonchus contortus*, is a blood sucking abomasal nematode that causes significant economic losses due to treatment costs and reductions in animal health and productivity. Incorrect and excessive chemical deworming have resulted in anthelmintic resistance to all major classes of drugs. Consequently, effective vaccine targets continue to be sought as cheap and alternative measures for control. Parasite-