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invited lectures

ENDOCRINOLOGY OF OBESITY IN DOGS AND CATS: WHERE WE ARE AND WHERE TO GO?

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Obesity is a worldwide disease affecting both people and companion animals. The frequency of canine and feline overweight is similar to that of humans, with a prevalence varying between 20 to 60% depending on the species, the country and the method of assessment. Comorbidities, reduced lifespan and associated metabolic and endocrine dysfunctions are comparable to human, making obesity a real life-threatening disease. Despite 20 years of growing attention, including more and more studies, meta-analysis and reports, obesity is still there and continue to rise dramatically in pets. Risk factors and predisposing causes are currently well-identified, as well as metabolic and endocrine consequences of obesity. Endocrine and metabolic assessment is complex, as it is a systemic organic disease associated with a chronic low-grade inflammation and a long-term dysfunction of adipocytes, considered as a real endocrine organ. The endocrine and metabolic characterization of the disease is the spearhead of the management of obesity. This is the role of the clinical pathologist helping practitioners to choose the best laboratory exams and to help them for the interpretation of the results in a diagnostic and prognostic point of view. This is the aim of the present conference: even if it does not pretend to be exhaustive, a review of the current knowledge on endocrinology of obesity will be provided, mixed with the experience of the author dealing with around 2000 and 470 biological assessments of obesity per year in dogs and cats, respectively.

Keywords: Obesity, Overweight, Pets, Endocrine, Metabolic, Adipocyte



oral presentations

SIGNATURE OF WEATHER CONDITIONS IN THE CANINE BABESIOSIS SPRING PEAK IN BELGRADE, SERBIA

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Background: Canine babesiosis, a tick-borne disease caused by *Babesia canis*, shows a seasonality whose relationship with local weather conditions has not been fully investigated. **Objectives:** Meteorological conditions can favour the tick-vector activity, and thus lead to an increased number of cases of canine babesiosis. Hence, our study looks into the link between the number of recorded cases, on the one hand, and temperature and relative humidity on the other with an aim to quantify their correlations. **Material and Methods:** Over 2013–2016, the data were collected in Belgrade, the capital of the Republic of Serbia. The meteorological parameters were obtained from the Republic Hydrometeorological Service of Serbia. The analysis includes correlations with a time lag, given in number of weeks, which shifts corresponding correlation pairs and shows a delayed effect of weather conditions. The time lag ranges between 0 and 52. **Results:** Canine babesiosis occurrence shows a pronounced maximum in the spring and a less marked one in the autumn. For the spring period, statistically significant correlation coefficients imply that over one year prior to the disease spring peak, temperature is more strongly linked with the number of cases than relative humidity. **Conclusion:** Temperature and relative humidity, through their influence on population of infected ticks, seem to be important meteorological drivers of the spring maximum of canine babesiosis in Belgrade. Further understanding of this interplay can help better contain the disease, and project its possible spread to other regions prompted by climate change.

Keywords: babesiosis, *Dermacentor reticulatus*, seasonality, temperature, relative humidity, correlations