

for age and trilostane use, subclinical group was associated with reduced risk of clinical outcomes (adjusted hazard ratio, 0.28; 95% confidence interval, 0.10–0.77).

The results of this study suggest that hypercortisolism in dogs includes subclinical PDH with an older age, lower post-ACTH stimulation cortisol, and lower risk of clinical outcomes compared to overt PDH.

## EN25

### Risk-Factors for Feline Hyperthyroidism in Southern Brazil: A Case-Control Study

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Hyperthyroidism is an elderly cats' frequent disease. Its prevalence has been increasing worldwide. Many evidences raised regarding hyperthyroidism risk-factors. By this way, those factors would have implications in the huge geographic prevalence variation observed. The objective of this study was to look for potential environmental variables associated with feline hyperthyroidism around Porto Alegre city, Southern Brazil. A 30-questions questionnaire was applied to 28 hyperthyroid feline owners as well as to 55 euthyroid (above 8 years of age) feline owners (n:m). Results of univariate analysis were expressed as odds ratio (OR) and respective 95% confidence interval (95%CI). Mean age of hyperthyroid cats was  $13.2 \pm 2.7$  years (range: 7-18), while euthyroid cats mean age was  $11.6 \pm 2.4$  years (range: 8-16) ( $P < 0.01$ ). Age greater than 12 years was considered as a risk-factor (OR 3.14; 95%CI = 1.10 - 8.97), as well as canned foods exposure (OR 2.87; 95%CI = 1.10 - 7.50) as previously described. Bathing frequency showed an association between higher bathing frequency (weekly/monthly) and hyperthyroidism (OR 7.57; 95%CI = 1.41 - 40.55). Other items surveyed, such as the use of plastic accessories, contact with domestic dust, use of endoparasiticides, ectoparasiticides, and vaccines, it was not possible to identify any association of these variables as risk or protective factors. Previous data suggest that bathing could have a protective effect cleaning off dust particles from the fur. The bath hypothesis as risk-factor needs further studies due to possible presence of endocrine disruptors linked with thyroid dysfunction in cosmetic products.

## EN26

### Selegiline and Trilostane Association for Canine Pituitary-Dependent Hyperadrenocorticism: A Randomized Clinical Trial

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Canine pituitary-dependent hyperadrenocorticism (PDH) is a common endocrine disorder. Clinical management usually demands lifelong trilostane therapy, which may cause endogenous ACTH (eACTH)

elevation, adrenomegaly, and recurrent dosage adjustments. Selegiline therapy has been previously indicated for canine PDH treatment at the pituitary level, but not encouraged. However, there have been no studies associating trilostane and selegiline for PDH treatment in dogs. The aim of this work was to evaluate the clinicopathological features, imaging findings, and hormone test results in dogs with PDH treated with trilostane (Tri) or with trilostane and selegiline (Tri+Sel). Fifteen client-owned dogs diagnosed with spontaneous PDH were evaluated: eight were treated with Tri and seven with Tri+Sel in a randomized clinical trial. Dogs underwent clinical examination, serum biochemical analysis, urinalysis, abdominal ultrasound, and eACTH and post-ACTH cortisol measurements on treatment days zero (D0), 30 (D30), 90 (D90), and 180 (D180). Patients included in the Tri group were initially treated with trilostane at an initial dose of 0.5 mg/kg PO twice daily, whereas the Tri+Sel group initially received 0.5 mg/kg PO of trilostane twice daily and 1 mg/kg PO of selegiline once daily. There was no significant difference at the 95% confidence level in eACTH variation between the Tri group (median D0 = 20.85 pg/dL; median D180 = 79.0 pg/dL;  $p = 0.07$ ) and the Tri+Sel group (median D0 = 103 pg/dL; median D180 = 98.25;  $p = 0.57$ ). Both groups showed significant lower post-ACTH cortisol levels at the end of the study (Tri median D0 = 15  $\mu\text{g/dL}$ ; D180 = 5.2  $\mu\text{g/dL}$ ;  $p = 0.002$  vs. Tri+Sel median D0 = 17.23  $\mu\text{g/dL}$ ; D180 = 2.26  $\mu\text{g/dL}$ ;  $p = 0.006$ ). Also, both groups needed trilostane dosage adjustments ( $p = 0.01$ ). However, no statistical difference was observed between the groups at the end of the study regarding eACTH or post-ACTH cortisol levels. Nonetheless, there was minor variation in left adrenal gland thickness in the Tri+Sel group (left adrenal median D0 = 0.65 cm; median D180 = 0.71;  $p = 0.7$ ) when compared with the Tri group (left adrenal median D0 = 0.77 cm; median D180 = 0.97 cm;  $p = 0.09$ ). The same was observed for right adrenal gland thickness (Tri +Sel median D0 = 0.65 cm; median D180 = 0.58 cm;  $p = 0.2$  vs. Tri median D0 = 0.58 cm; median D180 = 0.77 cm;  $p = 0.04$ ). Moreover, patients in the Tri+Sel group seemed to have achieved better metabolic control throughout fructosamine and total cholesterol evaluation. Notwithstanding, no differences in clinical control or cognitive function status were perceived between the groups. The association of selegiline with trilostane seems to be a safe and promising complementary therapy for canine PDH. However, further studies with a larger sample size and longer follow-up are needed to clarify the actual effect of this association.

## EN27

### Urinary Tract Infection in Canine Hyperadrenocorticism

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Occult urinary tract infection (UTI) is assumed as a common comorbidity in canine patients with hyperadrenocorticism (HAC), affecting up to 50% of cases at initial diagnosis. However, increased concern about

HAC has turned disease identification very precocious. The purpose of this work was to identify UTI prevalence in HAC patients attended at a veterinary teaching hospital. Eighty-seven dogs with HAC were included in the study and divided in three groups: newly diagnosed ( $n = 28$ ), poorly controlled with trilostane or mitotane ( $n = 24$ ), and well-controlled with trilostane or mitotane ( $n = 35$ ). The HAC diagnosis was defined based on clinical presentation, blood work evaluations and positive endocrine tests. The criteria to define dogs as poorly or well-controlled was defined based on clinical status and post-ACTH cortisol  $> 6$  mcg/dL, or  $< 6$  mcg/dL, respectively. The UTI was characterized as positive urine culture in a sample collected by cystocentesis. After urine culture, bacterial identification was performed by MALDI-TOF mass spectrometry analysis, and antibiogram performed by disc diffusion tests for seven antibiotics (cefalexin, amoxicillin with clavulanate, doxycycline, sulfa-trimethoprim, enrofloxacin, and nitrofurantoin). The overall UTI frequency was 19.54% (17/87). Surprisingly, newly diagnosed patients had UTI only in 14.28% of cases (4/28) whereas in poorly controlled dogs UTI was identified in 16.67% of cases (4/24), and in well-controlled dogs UTI frequency was 25.71% (9/35). Only 25% (1/4) of the newly diagnosed patients with UTI had any associated clinical manifestation (p.ex. active urinary sediment, polaciuria), and this clinical picture was even less frequent in well-controlled dogs (11% - 1/9), and null in dogs in the weak control group. Main bacterial genus identified were *Escherichia* sp. and *Proteus* sp. Occult UTI was less frequent than expected in this population, and this scenario may be a reflex of early HAC diagnosis.

## EN28

### Leptin, IL-6 and Glucagon Differ in Diabetic vs Healthy Dogs But Diet Influences Only Leptin

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Investigation of inflammatory and hormonal profile of diabetic dogs can help to explain pathogenic mechanism involved in this disease. Our study aimed to compare serum concentration of some interleukin (IL), hormones and incretins from diabetic ( $n = 15$ ) and healthy dogs ( $n = 7$ ). Procedures were approved by Ethics Committee on Animal Use. The diabetic dogs received, randomly and by a double blind way, three diets differenced by fat level and starch source: Ba (mix of rice, pea and barley; 6.7 g of fat/1000kJ), PB (pea and barley; 9.6 g) and Co (corn; 9.8 g). After two months receiving each diet, serum concentrations of IL-10, IL-6, TNF- $\alpha$ , amylin, glucagon-like peptide-1 (GLP-1), leptin, peptide YY (PYY) and glucagon were measured. In healthy group, the dogs received commercial adult diet with intermediary fat content (7.6g of fat/1000kJ; starch source: corn and rice) for fifteen

days prior to those analyzes. Diabetic and healthy dogs had ideal body condition score. Diet did not influence results, when comparing them among diabetic dogs ( $p > 0.05$ ). When comparing the mean concentration of the variables of diabetic with healthy dogs, we observed that there were higher concentration of serum leptin ( $p < 0.01$ ), IL-6 ( $p < 0.03$ ) and glucagon ( $p = 0.01$ ) in diabetic than healthy dogs. It was the first study that evaluated effects of diet on these variables. We conclude that starch source or difference at fat amount did not influence IL, hormones and incretins serum concentrations of diabetic dogs and, there were differences between diabetic and healthy dogs.

## F01

### Agreement Between 3 Different Tests for Colostrum Quality in Beef Cattle with High Risk Pregnancies

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The purpose of this study is to report the agreement between three different commercially available tests of colostrum quality in beef cattle. Appropriate information for decision making related to supplementation of colostrum in beef calves, particularly those born following a dystocia event, is currently lacking with most of the literature on colostrum quality and failure of passive transfer generated in dairy cattle.

From November 1, 2016, to December 1, 2018, colostrum samples were obtained immediately after calving from all beef breed cows and heifers admitted to the ISU Lloyd Veterinary Medical Center Food Animal and Camelid Hospital for calving management or dystocia. The colostrum was screened via turbidimetric immunoassay, Brix percentage, and radial-immunodiffusion (RID) to estimate IgG quantity and colostrum quality. A total of 223 cows were identified and full measurements from all three assays were achieved from 208 cows. Correlation between RID and Brix percentage was  $R^2 = 0.5308$ ; correlation between RID and turbidimetric immunoassay was  $R^2 = 0.4467$ . When colostrum quality was considered utilizing a cutoff of 22% Brix, 176/219 samples met or exceeded this percentage. Using a limit of 5000 mg/dL (50 gm/L) 201/217 RID samples exceeded the limit whereas 82/217 exceed this threshold via turbidimetric assay. Coefficient of variation (CV) values were 0.191, 0.359, and 0.394 between Brix, turbidimetric immunoassay, and RID, respectively. Practitioners should be aware of variability between testing methods for colostrum quality in beef cattle and consider multiple testing modalities or supplementation of the calf with colostrum replacer following dystocia events.

## F02

### Agreement Between Four Different Tests for Assessment of Passive Transfer in High-Risk Beef Calves

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