

abscesses, omasal dilatation, perforating abomasal ulcers and advanced pregnancy were also identified as primary cause of CI in three cases (6%) each. However, the precise etiology remained undetermined in 12 cases (23%). Necropsy was performed in 24 cases (46%) and vagal nerve lesions detected in only one case.

Short-term prognosis was good with 30 cases (58%) being discharged. Long-term prognosis was fair with 13 cases (25%) remaining in the herd for at least one subsequent lactation. Three out of 10 (30%) cattle with perireticular abscesses remained in the herd for at least one subsequent lactation. 9 out of 15 (60%) cattle with an abomasal dysfunction were euthanized or died during hospitalization.

The two most frequently identified etiologies of CI in adult dairy cattle were perireticular abscesses and complications after surgical correction of right abomasal displacement or abomasal volvulus. Adult dairy cattle with perireticular abscesses can be treated with a fair prognosis, while abomasal lesions appear associated with a worse outcome.

F13

EVALUATION OF ENDOTOXIN IN PLASMA OF DIARRHEIC CALVES AND ITS ASSOCIATION WITH Demeanor, HYPER-L-LACTATEMIA AND HYPOGLYCEMIA. Diego Gomez¹, Juan Rodriguez-Lecompte¹, Jeanne Lofstedt¹, Luis Arroyo², J. McClure¹. ¹Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, PE, Canada, ²Ontario Veterinary College, University of Guelph, Guelph, ON, Canada

Information regarding the presence of lipopolysaccharide (LPS) in plasma of calves with diarrhea is lacking. We hypothesized that LPS can be detected in diarrheic calves and its concentration is higher in nonsurviving than surviving calves. We also hypothesized that plasma LPS is associated with altered demeanour (attitude, suckling reflex and posture) and biochemical variables.

This prospective study included 34 calves ≤ 28 days of age with diarrhea and 5 healthy age-matched controls. Comparisons between groups were performed using *t*- or Mann-Whitney U tests. ANOVA test was used to determine association between LPS and posture (standing, sternal or lateral recumbence), attitude (bright, depressed and comatose) and suckle reflex (strong, weak and absent). Spearman rank (r_s) test was used to evaluate correlations.

Plasma LPS was detected in both healthy and diarrheic calves. LPS was significantly higher in diarrheic than healthy (0.997 ng/mL; 0.976–1.044 and 0.966 ng/mL, 0.961–0.981, respectively; $P = 0.008$) and in nonsurviving than surviving calves (1.036 ng/mL; 1.004–1.073 and 0.97 ng/mL, 0.974–0.996, respectively; $P < 0.001$). LPS was not associated with calf demeanour ($P > 0.05$), however, it was positively associated with plasma L-lactate ($r_s = 0.47$; $P = 0.005$) and negatively associated with glucose ($r_s = -0.45$; $P = 0.008$). LPS was higher in calves with hyper-L-lactatemia (>2.5 mmol/L) versus those without hyper-L-lactatemia (1.023 ng/mL; 0.995–1.069 and 0.985 ng/mL; 0.974–0.995, respectively; $P = 0.01$), and in hypoglycemic (<3.5 mmol/L) calves compared with normo/hyperglycemic (1.046 ng/mL; 0.976–1.32 and 0.994 ng/mL; 0.996–1.235, respectively; $P = 0.02$).

Plasma LPS was higher in diarrheic and nonsurviving calves. LPS was higher in hyper-L-lactatemic and hypoglycemic calves suggesting that diarrheic calves with endotoxemia may have altered metabolic pathways.

F14

EPIDEMIOLOGIC EVALUATION OF SILICA UROLITHIASIS IN GOATS (106 CASES): PERSPECTIVE FROM THE MINNESOTA UROLITH CENTER. Eugene Nwaokorie, Carl Osborne, Jody Lulich, Vachira Humpravit, Thomas Fletcher, Lisa Ulrich, Lori Koehler. University of Minnesota, Saint Paul, MN, USA

To (1) determine risk factors for silica urolithiasis in goats; and (2) to evaluate changes in silica urolith submission rate over

the past 28 years by comparing January 1, 1984 to December 31, 1998 (period 1) and January 1, 1999 to December 31, 2012 (period 2). Study population included 832 goats of which 106 had silica uroliths and 16,366 control goats. Information about age, breed, sex, reproductive status, geographic location, season of the year, and anatomic location, were used to identify risk factors. Pygmy, Nubian, Nigerian dwarf and mixed breeds were more likely to develop silica urolithiasis than other breeds. Breeds of African origin (including Pygmy and, Nigerian Dwarf) comprised 56% of cases. Neutered male goats had significantly increased risk of developing silica uroliths. A significant association was found between breed, sex, reproductive status, geographical location, season, and anatomic location and detection of silica uroliths in goats. The proportion of silica urolith submissions had decreased from 20% in period 1 to 12% in period 2. Mean age of goats with silica increased from 2.5 ± 3.2 years in period 1 to 3 ± 2.5 years in period 2. Males comprised 96% and females comprised 4% in period 1. In period two males comprised 100% of the submissions. Results suggest that the prototypical goat with silica urocystoliths is a neutered male, 2.5–3 years and of African descent. While results of this study indicate risk factors for silica uroliths, these associations do not prove a cause and effect relationship.

F15

EVALUATION OF THE CARDIOMYOTOXIC EFFECTS OF DOXYCYCLINE OVERDOSE IN CALVES USING 2-DIMENSIONAL SPECKLE TRACKING. Laureline Lecoq¹, Aurélie Leroux¹, Mounir Brihoum¹, Frédéric Rollin², Alexandra Saliccia¹, Geoffroy De La Rebiere De Pouyade¹, Nassim Moula³, Hélène Amory¹. ¹Department of Companion Animals and Equids, Faculty of Veterinary Medicine, University of Liege, Liège, Belgium, ²Department of Animal Production, Faculty of Veterinary Medicine, University of Liege, Liège, Belgium, ³Bioinformatics, Bioinformatics and Animal Selection, Department of Animal Production, Faculty of Veterinary Medicine, University of Liege, Liège, Belgium

Doxycycline (DOXY) is associated with left ventricular (LV) dysfunction in calves in accidental overdose but not in experimental models when evaluated with classical and Doppler echocardiography. Two-dimensional-speckle tracking (2DST) is used to evaluate LV dysfunction in numerous species but not in cattle. The aim of this study was to evaluate the cardiotoxic effects of an experimental overdose of DOXY using 2DST in calves.

Ten healthy male Holstein calves. Group 1: 5 calves (mean age 58.0 ± 16.3 days; mean body weight 72.2 ± 13.0 kg) received 25 mg/kg of DOXY orally for 5 days. Group 2: 5 calves (mean age 56.4 ± 15.7 days; mean body weight 73.4 ± 7.0 kg) received a placebo. Electrocardiography (ECG) and 2DST echocardiography were performed at day 0 and day 8. ECG tracings were analysed for occurrence of arrhythmias. 2DST measurements included global and segmental, peak values for radial and circumferential strains (SR, SC), strain rates (SrR, SrC), rotation (Rot), rotation rates (RotR) and radial displacement (DR).

All calves completed the study. ECG recordings were unremarkable in both groups. Heart rate was neither significantly different between groups nor before and after treatment. LV systolic function was affected in calves receiving an overdose of DOXY as shown by a significant decrease of segmental SR ($P < 0.05$), SC ($P < 0.05$) and DR ($P < 0.05$) in treated calves compared to the placebo group in several segments. The SrC in early diastole was also significantly decreased in 1 segment (<0.05).

In calves, DOXY overdose induces a LV dysfunction in systole, and to a lesser extent, in diastole. A better comprehension of the pathophysiology involved in the DOXY overdose will help in the treatment of accidental cases.