Subject Alert – Veterinary Cardiology. No. 73 – Jan 2019

News articles

- Children and adults often misinterpret dog body language

https://www.cabi.org/vetmedresource/news/65958
Awareness and recognition of dogs' stress signalling are vital to enable safe interactions
Date: 9 January 2019

- Do overweight dogs live shorter lives?

https://www.cabi.org/vetmedresource/news/65945
Study finds an adverse effect of overweight body condition on life span in pet dogs
Date: 3 January 2019

- Empathy towards animals may be hardwired in human DNA

https://www.cabi.org/vetmedresource/news/65946
Oxytocin has been linked to the relationships between people and animals for the first time
Date: 3 January 2019

- Joint statement of N. American and European veterinarians on combating antimicrobial resistance

https://www.cabi.org/vetmedresource/news/65830
Veterinary organizations in North America and Europe have teamed up to combat antimicrobial resistance (AMR) while ensuring the continuing availability of medications essential for human and animal health.
Date: 11 December 2018

- Atrioventricular accessory pathways in dogs treated with radiofrequency catheter ablation

https://www.cabi.org/vetmedresource/news/65790
Minimally invasive technique provides long-term resolution
Date: 7 December 2018

- WSAVA launches position paper on hereditary diseases

https://www.cabi.org/vetmedresource/news/65771
WSAVA calls for health-conscious breeding and greater use of genetic testing
Date: 5 December 2018

- International effort needed to combat antimicrobial resistance

https://www.cabi.org/vetmedresource/news/65640

Ministers agree on international action to address antimicrobial resistance in animals and to safeguard medicines for humans and animals alike
Date: 9 November 2018

- Study evaluates prognostic factors in dogs with mitral valve disease

https://www.cabi.org/vetmedresource/news/65626
Cardiac biomarkers and key clinical findings have been identified that can help veterinary practitioners identify dogs with degenerative mitral valve disease that are at highest risk of death.
Date: 6 November 2018

- Clinical trial of MK-467 for canine sedation and anaesthesia

https://www.cabi.org/vetmedresource/news/65584
MK-467 reduced the adverse effects of other drugs on the cardiovascular system of canine patients
Date: 1 November 2018

- Study identifies common health issues in Labradors

https://www.cabi.org/vetmedresource/news/65556
Chocolate Labrador Retrievers have a shorter lifespan than their black and yellow counterparts, according to a UK study
Date: 23 October 2018

CAB Reviews

- Is vitality assessment important in neonatal animals?

Mota-Rojas, D.; López, A.; Martínez-Burnes, J.; Muns, R.; Villanueva-García, D.; Mora-Medina, P.; González-Lozano, M.; Olmos-Hernández, A.; Ramírez-Necoechea, R.; CABI, Wallingford, UK, Is vitality assessment important in neonatal animals?, 2018, 13, 036, 1-13
https://www.cabi.org/vetmedresource/review/20183347373
Labour challenges the newborn to adapt to extrauterine life and survive the troublesome neonatal period. Low vitality is a recurrent problem in veterinary perinatology, and several factors can directly or indirectly culminate in neonatal death. One prime determinant of low vitality in animals is foetal hypoxia resulting from prolonged labour or dystocia. Factors such as foetal acidosis, metabolic and electrolyte imbalances, and asphyxia can quickly lead to neonatal death, while others are a consequence of low vitality in which the weak neonate cannot reach the teat and feed, thermoregulate, or breathe because of airway obstruction by meconium. Neonatal hypoxia can also lead to a failure of passive transfer and neonatal infections. The birth weight, the age of the dam, the size of the litter, and parity are also relevant vitality determinants. Scoring systems, similar to the Apgar score used with human babies, have been modified in veterinary neonatology to identify low vitality neonates in need of medical intervention. This review focuses on the vitality assessments and risk factors associated with neonatal mortality in puppies, calves and piglets. Also reviewed is the relationship of umbilical cord morphology and hypoxia with the premature passing of meconium into the amniotic sac and subsequent aspiration into the lungs. Veterinary literature shows a need to improve Apgar scores in animals by using blood gases and other clinical and laboratory tests. Also, it is necessary to better train veterinarians and personnel to identify low vitality neonates and when necessary to implement a rapid medical intervention.

Evidence-based references

Citation 3.
Accession Number

20183385593
Author
Dunn, M.; Scansen, B. A.;
Title
Interventional radiology management of vascular obstruction. (Special Issue: Interventional radiology.)
Source
Veterinary Clinics of North America, Small Animal Practice; 2018. 48(5):819-841.
Publisher
Saunders, An Imprint of Elsevier
Country of Publication
USA
Abstract
Vascular obstructions in small animals have numerous causes and variable signs depending on location and chronicity. The decision to treat and by which method (medical, interventional, surgical) can be challenging. A combined approach of catheter-directed thrombolysis, angioplasty, or vascular stenting may be most appropriate for acute thrombosis, although optimal therapeutic strategies are undefined in this population. The role of embolic trapping devices in animals is uncertain. Chronic cases of vascular obstruction, with collateral flow and neither ischemia nor venous congestion manifest, may be conservatively managed. Prospective clinical studies are needed to better guide management of vascular obstructions in veterinary medicine.
Language
English.
Year of Publication
2018

Citation 4.
Accession Number
20183385584
Author
Roura, X.; Santamarina, G.; Tabar, M. D.; Francino, O.; Altet, L.;
Title
Polymerase chain reaction detection of Bartonella spp. in dogs from Spain with blood culture-negative infectious endocarditis.
Source
Journal of Veterinary Cardiology; 2018. 20(4):267-275.
Publisher
Elsevier Ltd
Country of Publication
UK
Abstract
Objectives: The presence of Bartonella spp. was detected by polymerase chain reaction (PCR) in dogs from Spain with blood culture-negative endocarditis. The aim of this study is to add information about canine infectious endocarditis in Europe. Animals: Thirty dogs with naturally occurring blood culture-negative endocarditis were examined from 2010 to 2017 at three veterinary referral hospitals, located in northwest, northeast, and southeast of Spain. Methods: It is a retrospective study. Medical records were reviewed to extract relevant data. Frozen or paraffin-embedded cardiac valve tissue and/or ethylenediamine tetraacetic acid blood samples were evaluated by PCR for the presence of Bartonella DNA. Positive results were sequenced to confirm the species. Results: Polymerase chain reaction was positive for eight out of 30 dogs included (26.6%). Bartonella rochalimae, Bartonella vinsonii subsp. berkhoffii, and Bartonella koehlerae were detected in valve tissue or blood. Conclusions: Bartonella could be an important cause of blood culture-negative infectious endocarditis in dogs from Spain. The outcome for those dogs affected with Bartonella spp. was grave. Prompt empirical treatment with amoxicillin-clavulanate plus fluoroquinolones could be of value in cases of blood culture-negative endocarditis.
Language

English.
Year of Publication
2018

Citation 5.
Accession Number
20183385581
Author
Heishima, Y.; Hori, Y.; Nakamura, K.; Yamashita, Y.; Isayama, N.; Kanno, N.; Katagi, M.; Onodera, H.; Yamano, S.; Aramaki, Y.;
Title
Diagnostic accuracy of plasma atrial natriuretic peptide concentrations in cats with and without cardiomyopathies.
Source
Journal of Veterinary Cardiology; 2018. 20(4):234-243.
Publisher
Elsevier Ltd
Country of Publication
UK
Abstract
Objectives: Plasma atrial natriuretic peptide (ANP) levels have been reported to be elevated in cats with cardiomyopathy. We investigated the diagnostic accuracy of plasma ANP concentration as an indicator of the severity of cardiomyopathies. Animals: This study included 78 control cats and 83 cats with various types of cardiomyopathy. Methods: This was a prospective multicentre study. Control cats were determined to have a normal heart, and diseased cats were diagnosed by echocardiography. Diseased cats were divided into asymptomatic cats without left atrial dilation (LAD), asymptomatic cats with LAD, and cats with heart failure. Plasma C-terminal ANP concentrations were measured using chemiluminescence. Results: The median plasma ANP concentration in controls was 43.3 (interquartile range, 33.0-56.3) pg/mL. Plasma ANP values were significantly higher in the cardiomyopathic cats with LAD and heart failure, but the values in cats without LAD were comparable to those in control cats. To distinguish cats with cardiomyopathy from controls, a plasma ANP concentration >77.5 pg/mL afforded sensitivity of 66.3% and specificity of 84.6%. Use of plasma ANP concentration >110.9 pg/mL to identify cats with LAD had a sensitivity of 73.6% and specificity of 93.5%. The areas under the receiver-operating characteristic curve were 0.80 and 0.86. Conclusions: Plasma ANP concentrations were higher in cats with more advanced cardiomyopathy. Although assaying the ANP concentration alone may not help to diagnose cardiac disease, measuring provides additional information that is useful for assessing the severity of cardiomyopathies.
Language
English.
Year of Publication
2018

Citation 7.
Accession Number
20183384051
Author
Adam, M.; Raekallio, M. R.; Keskitalo, T.; Honkavaara, J. M.; Scheinin, M.; Kajula, M.; Molsa, S.; Vainio, O. M.;
Title
The impact of MK-467 on plasma drug concentrations, sedation and cardiopulmonary changes in sheep treated with intramuscular medetomidine and atipamezole for reversal.
Source
Journal of Veterinary Pharmacology and Therapeutics; 2018. 41(3):447-456. 44 ref.
Publisher

Wiley
Country of Publication
UK
Abstract
The effect of MK-467, a peripheral alpha 2-adrenoceptor antagonist, on plasma drug concentrations, sedation and cardiopulmonary changes induced by intramuscular (IM) medetomidine was investigated in eight sheep. Additionally, the interactions with atipamezole (ATI) used for reversal were also evaluated. Each animal was treated four times in a randomized prospective crossover design with 2-week washout periods. Medetomidine (MED) 30 micro g/kg alone or combined in the same syringe with MK-467 300 micro g/kg (MMK) was injected intramuscular, followed by ATI 150 micro g/kg (MED+ATI and MMK+ATI) or saline intramuscular 30 min later. Plasma was analysed for drug concentrations, and sedation was subjectively assessed with a visual analogue scale. Systemic haemodynamics and blood gases were measured before treatments and at intervals thereafter. With MK-467, medetomidine plasma concentrations were threefold higher prior to ATI, which was associated with more profound sedation and shorter onset. No significant differences were observed in early cardiopulmonary changes between treatments. Atipamezole reversed the medetomidine-related cardiopulmonary changes after both treatments. Sedation scores decreased more rapidly when MK-467 was included. In this study, MK-467 appeared to have a pronounced effect on the plasma concentration and central effects of medetomidine, with minor cardiopulmonary improvement.
Language
English.
Year of Publication
2018

Citation 12.
Accession Number
20183370488
Author
Solis, C. N. de; Althaus, F.; Basieux, N.; Burger, D.;
Title
Sudden death in sport and riding horses during and immediately after exercise: a case series.
Source
Equine Veterinary Journal; 2018. 50(5):644-648. 31 ref.
Publisher
Wiley
Country of Publication
UK
Abstract
Background: Sudden death affects the health of horses, the safety of riders and the public perception of animal welfare during equestrian events. Objectives: To describe the signalment, clinical history, sudden death episode, rider injuries and causes of sudden death during exercise or closely thereafter in sport and pleasure riding horses. Study Design: Retrospective case series based on an online questionnaire. Methods: An online questionnaire was distributed to the veterinary and equestrian community. Connections of animals reported in the press to have died suddenly were sent the survey. Responses were analysed to obtain information. Results: Fifty-seven cases met inclusion criteria with enough information to be analysed. The most common discipline was eventing (n=23, 40.4%), and the most common breed involved was Thoroughbred (n=23, 40.4%). Forty-one (71.9%) horses collapsed during exercise, and 16 (28.1%) shortly thereafter. Twenty-four (42.1%) horses died during or near the time of competition and 33 (57.9%) during or near the time of training or a pleasure ride. In 16 (28.1%) horses, the cause of death was known or strongly suspected based on a post-mortem result, and a cardiovascular origin was reported in 13 of these 16 cases. Riders were injured in 13 (22.8%) cases, and injuries to their extremities were the most frequent. Main limitations: There is potential for misdiagnosis and recall and selection bias, and in the absence of data on the total number of horses engaged in equestrian sports and riding, prevalence cannot be calculated. Conclusions: Sudden death occurred in many types of equestrian sports and in riding horses.

Death outside competition was more common suggesting that registries based on reports from official veterinarians underestimate the magnitude of this problem. Rider injuries were not uncommon when ridden horses collapsed and died. A definitive diagnosis for the cause of death was not commonly achieved and cardiovascular origin was the most common where a diagnosis was proposed by survey respondents.
Language
English.
Year of Publication
2018

Citation 13.
Accession Number
20183370480
Author
Ven, S.; Decloedt, A.; Clercq, D. de; Vera, L.; Rademakers, F.; Loon, G. van;
Title
Detection of subclinical left ventricular dysfunction by tissue Doppler imaging in horses with aortic regurgitation.
Source
Equine Veterinary Journal; 2018. 50(5):587-593. 24 ref.
Publisher
Wiley
Country of Publication
UK
Abstract
Background: Aortic regurgitation (AR) can have an important clinical impact and in some cases leads to left ventricular (LV) failure. Tissue Doppler imaging (TDI) is an echocardiographic technique that has been used in horses to detect LV dysfunction. Objectives: To examine whether TDI detects changes in radial myocardial wall motion in horses with AR compared with control horses. Study Design: Case-control study. Methods: Echocardiography was performed in 30 healthy Warmblood horses and 34 Warmblood horses with AR, subdivided in groups with mild, moderate or severe AR. TDI measurements were performed on six segments of the short-axis images of the LV myocardial wall. Myocardial wall motion was evaluated by measuring velocity and deformation during isovolumetric contraction, systole, early and late diastole. Timing of different events was also measured. Results: In most segments, a significantly higher systolic myocardial velocity was found in horses with AR compared with controls. Horses with AR also had higher late diastolic velocity, although the difference was not significant in all segments. TDI measurement of timing intervals demonstrated less difference between groups. Main limitations: There was a significant difference in age between the control group and horses with AR, which may confound the results. The assessment of AR severity was based on subjective criteria as there is no gold standard. Conclusions: TDI showed significant differences in radial systolic and late diastolic myocardial velocity in horses with AR. This could indicate an altered LV function in these horses, but further research is needed to investigate the prognostic value of these measurements.
Language
English.
Year of Publication
2018

Citation 15.
Accession Number
20183358906
Author
Hezzell, M. J.; Ferrari, J.; Arndt, J.; Sleeper, M.;
Title
Sample size determination for evaluation of time domain heart rate variability indices in canine lameness.

Source
Journal of the American Animal Hospital Association; 2018. 54(5):235-238.
Publisher
American Animal Hospital Association
Country of Publication
USA
Abstract
Heart rate variability (HRV) is a physiologic phenomenon that occurs due to changing autonomic tone resulting in variable RR intervals. A reduction in HRV is used as an index of pain in neonatal human patients. Objective measures of pain would be valuable in the evaluation of canine patients and assessment of response to pain management strategies. We hypothesized that dogs with diseases associated with discomfort (osteoarthritis and bone neoplasia) would have reduced HRV compared with normal, healthy dogs. The aim of the study was to calculate the sample size necessary to investigate this hypothesis. Seventeen dogs from the Ryan Veterinary Hospital of the University of Pennsylvania patient population or owned by Ryan Veterinary Hospital of the University of Pennsylvania staff were enrolled in this single-blind, prospective pilot study. A 30 min electrocardiogram (ECG) was obtained from each dog using an ambulatory electrocardiographic monitor. All ECGs were obtained between 10 a.m. and 2 p.m. ECGs were analyzed and time-domain HRV indices computed. Sample size calculations suggest that 207 dogs would be necessary to ascertain if HRV is reduced in dogs experiencing discomfort or pain (50 in the arthritis group, 79 in the bone cancer group, and 78 in the control group).
Language
English.
Year of Publication
2018

Citation 17.
Accession Number
20183353253
Author
Ranganathan, B.; LeBlanc, N. L.; Scollan, K. F.; Townsend, K. L.; Agarwal, D.; Milovancev, M.;
Title
Comparison of major complication and survival rates between surgical ligation and use of a canine ductal occluder device for treatment of dogs with left-to-right shunting patent ductus arteriosus.
Source
Journal of the American Veterinary Medical Association; 2018. 253(8):1046-1052. 26 ref.
Publisher
American Veterinary Medical Association
Country of Publication
USA
Abstract
OBJECTIVE: To compare rates of major intraoperative complications and survival to hospital discharge between surgical ligation (SL) and canine ductal occluder (CDO) implantation for treatment of dogs with left-to-right shunting patent ductus arteriosus (PDA). DESIGN: Retrospective cohort study. ANIMALS: 120 client-owned dogs with left-to-right shunting PDA (62 treated by SL and 58 treated by CDO implantation). PROCEDURES: Data were retrieved from medical records of included dogs regarding signalment, medical history, vertebral heart scale, preoperative echocardiographic findings, complications encountered during surgery, and durations of anesthesia and surgery (SL or CDO implantation). Data were compared between dogs treated by SL and those treated by CDO implantation. RESULTS: Dogs treated by CDO implantation were significantly older and heavier than dogs treated by SL and had more pathological cardiac remodeling (as indicated by mitral regurgitation scores, left atrial-to-aortic root diameter ratios, and fractional shortening values). Durations of anesthesia and surgery were also significantly longer for CDO implantation versus SL. The major complication rate for dogs treated by SL (6/62 [10%]) was significantly greater than that for dogs treated by CDO implantation (0/58 [0%]). One dog in the SL group died during surgery. Overall rate of survival to hospital discharge was 99% (119/120). CONCLUSIONS AND CLINICAL RELEVANCE: Both SL

and CDO implantation were viable methods for PDA attenuation in the evaluated dogs. Although a greater proportion of dogs had major complications during the SL procedure, the 2 procedures had comparable rates of survival to hospital discharge.

Language
English.
Year of Publication
2018

Citation 18.
Accession Number
20183353252
Author
Malcolm, E. L.; Visser, L. C.; Phillips, K. L.; Johnson, L. R.;
Title
Diagnostic value of vertebral left atrial size as determined from thoracic radiographs for assessment of left atrial size in dogs with myxomatous mitral valve disease.
Source
Journal of the American Veterinary Medical Association; 2018. 253(8):1038-1045. 21 ref.
Publisher
American Veterinary Medical Association
Country of Publication
USA
Abstract
OBJECTIVE: To describe vertebral left atrial size (VLAS), a quantitative method to estimate left atrial (LA) size radiographically, and to determine its diagnostic value for prediction of echocardiographic LA enlargement in dogs with myxomatous mitral valve disease (MMVD) of varying severity. DESIGN: Prospective observational study. ANIMALS: 103 client-owned dogs with a left-sided systolic murmur. PROCEDURES: For each dog, 3-view thoracic radiographs were obtained within 24 hours of an echocardiographic examination. The VLAS was measured on right and left lateral thoracic radiographs and compared with the left atrium-to-aortic root ratio acquired from short-axis (LA:AoSx) and long-axis (LA:AoLx) echocardiographic images. Left atrial enlargement was defined as an LA:AoLx >=2.6 or LA:AoSx >=1.6. Dogs were allocated to 4 groups on the basis of MMVD severity. RESULTS: Of the 103 dogs, 15, 40, 26, and 22 were assigned to the control (no echocardiographic abnormalities), stage B1 (hemodynamically irrelevant MMVD), B2 (hemodynamically relevant MMVD), and C-D (MMVD with congestive heart failure) groups, respectively. Median VLAS, LA:AoSx, and LA:AoLx for the stage B2 and C-D groups were significantly greater than the corresponding medians for the control and stage B1 groups. There was a moderate positive correlation between VLAS and both LA:AoSx and LA:AoLx. Receiver operating characteristic analyses revealed that a VLAS >=2.3 vertebrae was a useful predictor of LA enlargement. Intraobserver and interobserver agreements for VLAS measurements were high. CONCLUSIONS AND CLINICAL RELEVANCE: Results indicated VLAS was a repeatable and useful radiographic measurement for prediction of LA enlargement in dogs with MMVD.
Language
English.
Year of Publication
2018

Citation 20.
Accession Number
20183351359
Author
Trefz, F. M.; Lorenz, I.; Constable, P. D.;
Title

Electrocardiographic findings in 130 hospitalized neonatal calves with diarrhea and associated potassium balance disorders.

Source

Journal of Veterinary Internal Medicine; 2018. 32(4):1447-1461. 74 ref.

Publisher

Wiley

Country of Publication

USA

Abstract

Background: Hyperkalemia in neonatal diarrheic calves can potentially result in serious cardiac conduction abnormalities and arrhythmias. Objectives: To document electrocardiographic (ECG) findings and the sequence of ECG changes that are associated with increasing plasma potassium concentrations (cK+) in a large population of neonatal diarrheic calves. Animals: One hundred and thirty neonatal diarrheic calves (age <=21 days). Methods: Prospective observational study involving calves admitted to a veterinary teaching hospital. Results: Hyperkalemic calves (cK+: 5.8-10.2, blood pH: 6.55-7.47) had significantly (P<.05) longer QRS durations as well as deeper S wave, higher T wave, and higher ST segment amplitudes in lead II than calves, which had both venous blood pH and cK+ within the reference range. The first ECG changes in response to an increase in cK+ were an increase in voltages of P, Ta, S, and T wave amplitudes. Segmented linear regression indicated that P wave amplitude decreased when cK+ >6.5 mmol/L, S wave amplitude voltage decreased when cK+ >7.4 mmol/L, QRS duration increased when cK+ >7.8 mmol/L, J point amplitude increased when cK+ > 7.9 mmol/L, and ST segment angle increased when cK+ >9.1 mmol/L. P wave amplitude was characterized by a second common break point at cK+=8.2 mmol/L, above which value the amplitude was 0. Conclusions and Clinical Importance: Hyperkalemia in neonatal diarrheic calves is associated with serious cardiac conduction abnormalities. In addition to increased S and T wave amplitude voltages, alterations of P and Ta wave amplitudes are early signs of hyperkalemia, which is consistent with the known sensitivity of atrial myocytes to increased cK+.

Language

English.

Year of Publication

2018

Citation 21.

Accession Number

20183351356

Author

Agne, G. F.; Jung SeungWoo; Wooldridge, A. A.; Duran, S. H.; Ravis, W.; Toribio, R.;

Title

Pharmacokinetic and pharmacodynamic properties of orally administered torsemide in healthy horses.

Source

Journal of Veterinary Internal Medicine; 2018. 32(4):1428-1435. 40 ref.

Publisher

Wiley

Country of Publication

USA

Abstract

Background: Diuretic treatment is the mainstay for management of congestive heart failure in horses, and its use has been restricted to injectable medications because no currently data supports the use of PO administered loop diuretics. Objectives: To determine the pharmacokinetic and pharmacodynamic properties of PO administered torsemide and, determine if PO administered torsemide, could be used as an alternative to injectable diuretics in the horse. Animals: Six healthy adult mares. Methods: A 2-phase, prospective study, that consisted of pharmacokinetic profiling of a single dose (6 mg/kg PO) and pharmacodynamic effects of long-term torsemide administration (2 mg/kg PO q12h) for 6 days in healthy horses. Results: Pharmacokinetic analysis identified a peak concentration (Cmax) of 10.14 micro g/mL (range, 6.79-14.69 micro g/mL) and elimination half-life (T1/2) 9.2 hours (range, 8.4-10.4 hours). The area

under the plasma drug concentration over time curve (AUC) was 80.7 micro g x h/mL (range, 56.5-117.2 micro g x h/mL). A statistically significant increase in urine volume and decrease in urine specific gravity were found from day 0 (baseline) to day 6 (P<.0001). Significant alterations in biochemical variables included hyponatremia, hypokalemia, hypochloremia, and increased serum creatinine concentration. Mean arterial blood pressure significantly decreased on day 6 (57.7+or-8.8 mm Hg, P=.001) as compared with baseline (78+or-6.1 mm Hg). Serum aldosterone concentrations significantly increased after 6 days of torsemide administration (P=.0006). Conclusions and Clinical Importance: PO administered torsemide (4 mg/kg/day) successfully reached therapeutic concentrations in blood, induced clinically relevant diuresis, and resulted in moderate pre-renal azotemia and electrolyte disturbances.

Language

English.

Year of Publication

2018

Citation 22.

Accession Number

20183351354

Author

Buhl, R.; Carstensen, H.; Hesselkilde, E. Z.; Klein, B. Z.; Hougaard, K. M.; Ravn, K. B.; Loft-Andersen, A. V.; Fenner, M. F.; Pipper, C.; Jespersen, T.;

Title

Effect of induced chronic atrial fibrillation on exercise performance in Standardbred trotters.

Source

Journal of Veterinary Internal Medicine; 2018. 32(4):1410-1419. 48 ref.

Publisher

Wiley

Country of Publication

USA

Abstract

Background: Atrial fibrillation (AF) is the most common arrhythmia affecting performance in horses. However, no previous studies have quantified the performance reduction in horses suffering from AF. Objectives: To quantify the effect of AF on maximum velocity (Vmax), maximum heart rate (HRmax), heart rate recovery (T100), hematologic parameters and development of abnormal QRS complexes. Animals: Nine Standardbred trotters. Methods: Two-arm controlled trial. Six horses had AF induced by means of a pacemaker and 3 served as sham-operated controls. All horses were subjected to an exercise test to fatigue before (SET1) and after (SET2) 2 months of AF or sham. The Vmax and HRmax were assessed using a linear mixed normal model. Abnormal QRS complexes were counted manually on surface ECGs. Results: Atrial fibrillation resulted in a 1.56 m/sec decrease in Vmax (P<.0001). In the AF group, HRmax+or-SD increased from 226+or-11 bpm at SET1 to 311+or-27 bpm at SET 2. The AF group had higher HRmax at SET2 compared with controls (P<.0001), whereas no difference between the control and AF groups was observed at SET1 (P=.96). Several episodes of wide complex tachycardia were observed during exercise in 3 of the AF horses during SET2. Conclusions and Clinical Importance: Atrial fibrillation resulted in a significant reduction in performance, an increase in HR and development of abnormal QRS complexes during exercise, which may be a risk factor for collapse or sudden cardiac death.

Language

English.

Year of Publication

2018

Citation 23.

Accession Number

20183345568

Author

Kallio-Kujala, I. J.; Turunen, H. A.; Raekallio, M. R.; Honkavaara, J. M.; Salla, K. M.; Casoni, D.; Hautajarvi, H. J.; Vainio, O. M.;

Title

Peripherally acting alpha -adrenoceptor antagonist MK-467 with intramuscular medetomidine and butorphanol in dogs: a prospective, randomised, clinical trial.

Source

Veterinary Journal; 2018. 240:22-26. 26 ref.

Publisher

Elsevier Ltd

Country of Publication

UK

Abstract

The aim of this study was to investigate the clinical usefulness of MK-467 (vatinoxan; L-659'066) in dogs sedated for diagnostic imaging with medetomidine-butorphanol. It was hypothesised that MK-467 would alleviate bradycardia, hasten drug absorption and thus intensify the early-stage sedation. In a prospective, randomised, blinded clinical trial, 56 client-owned dogs received one of two IM treatments: (1) 0.5 mg/m2 medetomidine + 0.1 mg/kg butorphanol (MB, n=29); or (2) 0.5 mg/m2 medetomidine + 0.1 mg/kg butorphanol + 10 mg/m2 MK-467 (MB-MK, n=27). Heart rates and visual sedation scores were recorded at intervals. Plasma drug concentrations were determined in venous samples obtained approximately 14 min after injection. Additional sedation (50% of original dose of medetomidine IM) and/or IM atipamezole for reversal were given when needed. The area under the sedation score-time curve for visual analogue scale (AUCVAS30) was calculated for the first 30 min after treatment using the trapezoidal method. Repeated ANOVA, Mann-Whitney U test and Fisher's exact test were used for parametric, non-parametric and dichotomous data. Heart rate was significantly higher from 10 to 40 min with MB-MK than with MB. AUCVAS30 was significantly higher after MB-MK. More dogs treated with MB-MK required additional sedation after 30 min, but fewer needed atipamezole for reversal compared with MB. Plasma concentrations of both medetomidine and butorphanol were higher after MB-MK. All procedures were successfully completed. MK-467 alleviated the bradycardia, intensified the early stage sedation and shortened its duration in healthy dogs that received IM medetomidine-butorphanol.

Language

English.

Year of Publication

2018

Citation 24.

Accession Number

20183344174

Author

Chetboul, V.; Damoiseaux, C.; Lefebvre, H. P.; Concordet, D.; Desquilbet, L.; Gouni, V.; Poissonnier, C.; Pouchelon, J. L.; Tissier, R.;

Title

Quantitative assessment of systolic and diastolic right ventricular function by echocardiography and speckle-tracking imaging: a prospective study in 104 dogs.

Source

Journal of Veterinary Science; 2018. 19(5):683-692. 40 ref.

Publisher

Korean Society of Veterinary Science

Country of Publication

Korea Republic

Abstract

Our aim was (1) to determine the within-day and between-day variability of several indices of systolic and diastolic right ventricular (RV) function by using conventional echocardiography and speckle-tracking echocardiography (STE) (Study 1), (2) to quantify these variables in a large healthy canine population (n=104) with Doppler-derived estimated systolic pulmonary arterial pressure (SPAP) and left ventricular

(LV) function, and (3) to establish the corresponding reference intervals (Study 2). For both studies, RV variables included tricuspid annular plane systolic excursion (TAPSE), right fractional area change (RFAC), STE longitudinal systolic strain (StS) of the RV free wall (RVFW) and of the entire RV (i.e., global RV StS), STE longitudinal systolic RVFW strain rate (SRS), and the diastolic early:late strain rate ratio. All but one within- and between-day coefficients of variation (13/14) were <15%, the lowest being observed for TAPSE (3.6-9.8%), global RV StS (3.8-9.9%), and RVFW StS (3.7-7.3%). SPAP was weakly and negatively correlated with the TAPSE:body weight ratio (rs=-0.26, p=0.01) and RVFW SRS (rs=-0.23, p<0.05). Reference intervals (lower and upper limits with 90% confidence intervals) were provided for all variables. STE provides a non-invasive evaluation of RV function that may be used for clinical investigations in canine cardiology.

Language

English.

Year of Publication

2018

Citation 26.

Accession Number

20183329818

Author

Lux, C. N.; Culp, W. T. N.; Mellema, M. S.; Rosselli, D. D.; Schmiedt, C. W.; Ameet Singh; Haynes, A.; Selmic, L. E.; Phillips, H.; Milovancev, M.; Mayhew, P. D.; Brown, D. C.;

Title

Factors associated with survival to hospital discharge for cats treated surgically for thoracic trauma.

Source

Journal of the American Veterinary Medical Association; 2018. 253(5):598-605. 47 ref.

Publisher

American Veterinary Medical Association

Country of Publication

USA

Abstract

OBJECTIVE: To determine the most common types of injuries in cats surgically treated for thoracic trauma, complications associated with surgical treatment, and factors associated with mortality rate and evaluate the effectiveness of the animal trauma triage (ATT) scoring system for predicting outcome. DESIGN: Retrospective case series with nested observational study. ANIMALS: 23 client-owned cats surgically treated for thoracic trauma at 7 veterinary teaching hospitals between 1990 and 2014. PROCEDURES: Medical records were reviewed to collect data on signalment, medical history, clinical signs and physical examination findings at initial evaluation, clinicopathologic findings, initial emergency treatments and diagnostic tests performed, type of trauma sustained, imaging findings, surgery details, postoperative complications, duration of hospitalization, and cause of death, if applicable. All variables were evaluated for associations with survival to hospital discharge. RESULTS: Types of trauma that cats had sustained included dog bite or attack (n=8 [35%]), motor vehicle accident (6 [26%]), other animal attack (2 [9%]), impalement injury or fall (2 [9%]), projectile penetrating trauma (1 [4%]), or unknown origin (4 [17%]). Intrathoracic surgery was required for 65% (15/23) of cats. The overall perioperative mortality rate was 13% (3/23). Mean+or-SD ATT scores for surviving and nonsurviving cats were 6.4+or-2.2 and 10.0+or-1.7, respectively. Nineteen of 20 cats with no cardiopulmonary arrest survived to discharge, compared with 1 of 3 cats with cardiopulmonary arrest. Only these 2 variables were significantly associated with outcome. CONCLUSIONS AND CLINICAL RELEVANCE: The perioperative mortality rate was low in this series of cats with thoracic trauma; however, those with cardiopulmonary arrest were less likely to survive to hospital discharge than other cats. Cats with a low ATT score were more likely to survive than cats with a high ATT score.

Language

English.

Year of Publication

2018

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- For information about RCVS Knowledge Library membership

References from CAB Abstracts

Citation 46.
Accession Number
20183385592
Author
Scansen, B. A.
Title
Cardiac interventions in small animals: areas of uncertainty. (Special Issue: Interventional radiology.)
Source
Veterinary Clinics of North America, Small Animal Practice; 2018. 48(5):797-817.
Publisher
Saunders, An Imprint of Elsevier
Country of Publication
USA
Abstract
There remain areas of uncertainty in optimal technique, preferred candidates, and expected outcome for small animal patients undergoing cardiac intervention. This article highlights issues within interventional cardiology that are in need of study and offers the author's opinion and experience on topics such as variants of pulmonary valve anatomy and alternatives to conventional balloon dilation for pulmonary valve stenosis, patient selection for cutting or high-pressure balloon dilation of aortic valvar or subaortic stenosis, occlusion of patent ductus arteriosus in very small dogs, ductal stenting in conditions with reduced pulmonary blood flow, and alternative considerations for vascular access and closure.
Language
English.
Year of Publication
2018

Citation 47.
Accession Number
20183385587
Author
Vera, L.; Decloedt, A.; Steenkiste, G. van; Clercq, D. de; Govaere, J.; Loon, G. van;
Title
Electrocardiographic confirmation of a twin pregnancy in a mare at 8 months of gestation.
Source
Journal of Veterinary Cardiology; 2018. 20(4):294-299.
Publisher
Elsevier Ltd
Country of Publication
UK
Abstract

A 15-year-old Warmblood mare, at 8 months of gestation, was presented to the Ghent University Faculty of Veterinary Medicine for evaluation of suspected stage one labor. Transrectal ultrasonography revealed no clear signs of placentitis or stage one labor. The combined thickness of uterus and placenta was 11 mm and the cervix was closed. Twin pregnancy was suspected by transabdominal ultrasonography but could not be confirmed with certainty. An electrocardiogram (ECG) was recorded from the mare's abdominal wall to register a fetal ECG. To confirm twin pregnancy, registration of both fetal ECGs simultaneously on the same ECG trace was attempted. Twelve different electrode configurations were used. In 11 recordings, one fetal ECG was visible. Only one specific right-sided electrode configuration showed both fetal ECGs at the same time, which confirmed twin pregnancy. Although electrocardiographic diagnosis of a twin pregnancy in a mare is possible, this case highlights the need for multiple electrode configurations and the high likelihood of false negatives.

Language
English.

Year of Publication
2018

Citation 48.

Accession Number
20183385586

Author
Santilli, R. A.; Caivano, D.; Pariaut, R.; Birettoni, F.; Perego, M.; Porciello, F.; Moise, N. S.;

Title
Low-energy ablation of anteroseptal accessory pathways in two dogs.

Source
Journal of Veterinary Cardiology; 2018. 20(4):285-293.

Publisher
Elsevier Ltd

Country of Publication
UK

Abstract
In humans, accessory pathways (APs) in an anteroseptal and midseptal position are often challenging to ablate because of their close proximity with the conduction pathways of the atrioventricular junction. The use of low-energy ablation techniques can be useful to reduce the risk of permanently damaging the atrioventricular node and the His bundle. This report describes the use of low-energy radiofrequency catheter ablation to successfully and permanently ablate anteroseptal APs in two dogs with orthodromic atrioventricular reciprocating tachycardia. In the first dog, a transient first degree atrioventricular block persisted for 30 s after radiofrequency energy delivery. In the second dog, transient paroxysmal atrioventricular conduction block was observed during the procedure but resolved within 3 days. First degree atrioventricular block was again identified 2 months later. In conclusion, anteroseptal APs can be effectively treated by low-energy radiofrequency catheter ablation with minimal and transient damage to the atrioventricular junction.

Language
English.

Year of Publication
2018

Citation 50.

Accession Number
20183385583

Author
Bruler, B. C.; Jojima, F. S.; Dittrich, G.; Giannico, A. T.; Sousa, M. G.;

Title

QT instability, an indicator of augmented arrhythmogenesis, increases with the progression of myxomatous mitral valve disease in dogs.

Source

Journal of Veterinary Cardiology; 2018. 20(4):254-266.

Publisher

Elsevier Ltd

Country of Publication

UK

Abstract

Objectives: To investigate QT instability in dogs with myxomatous mitral valve disease (MMVD) and to determine if this is associated with arrhythmogenesis. Animals: One hundred sixty-seven MMVD dogs that met the study criteria were included. Methods: Echocardiographic and electrocardiographic data were gathered. Fifty consecutive QT intervals were recorded for each dog. Both heart rate-corrected and uncorrected QT intervals were used to calculate average QT (QTa), QT variance (QTv), total instability (TI), short-term instability (STI), and long-term instability (LTI). Sensitivity and specificity of QTa, QTv, TI, STI, and LTI in identifying arrhythmias and cardiac remodeling were calculated. Patient follow-ups were obtained for analyses of disease progression and survival. Results: An increase related to progression was documented for all the studied indices. QTa and STI best identified dilated hearts and arrhythmias, respectively. Dogs with QTa >272 ms and STI >8 ms were 15% more likely to develop ventricular arrhythmias (likelihood ratios of 2.31 [P=0.0008] and 2.09 [P=0.0049], respectively). A QTa >258 ms discriminated American College of Veterinary Internal Medicine stage B1 from stages B2/C disease with a sensitivity of 63% and specificity of 61%. Dogs in American College of Veterinary Internal Medicine stage C of MMVD have higher STI and 3.34 times increased risk of developing arrhythmias when values more than 8 ms are reached. All indices except LTI and QTv showed prognostic value, with increases relating to all-cause mortality. Conclusion: Analyses of QT intervals demonstrated changes in STI, LTI, and TI. Increased QT prolongation and instability are significantly related to mortality and may be useful in determining prognosis of MMVD patients.

Language

English.

Year of Publication

2018

Citation 51.

Accession Number

20183385582

Author

Hoglund, K.; Haggstrom, J.; Hanas, S.; Merveille, A. C.; Gouni, V.; Wiberg, M.; Willesen, J. L.; K. Mc Entee; Sorensen, L. M.; Tiret, L.; Seppala, E. H.; Lohi, H.; Chetboul, V.; Fredholm, M.; Lequarre, A. S.; Ljungvall, I.;

Title

Interbreed variation in serum serotonin (5-hydroxytryptamine) concentration in healthy dogs.

Source

Journal of Veterinary Cardiology; 2018. 20(4):244-253.

Publisher

Elsevier Ltd

Country of Publication

UK

Abstract

Introduction: Serotonin (5-hydroxytryptamine [5-HT]) has several biological functions. In different species, excessive 5-HT has been linked to valvular lesions, similar to those seen in dogs with myxomatous mitral valve disease. Previous studies suggest higher 5-HT in healthy Cavalier King Charles Spaniels (CKCSs), a breed highly affected by myxomatous mitral valve disease, compared to other breeds. Objective: To investigate potential interbreed variation in serum 5-HT in healthy dogs. Animals: 483 healthy dogs of nine breeds aged 1-7 years. Methods: Dogs were examined at five European centers. Absence of cardiovascular, organ-related, or systemic diseases was ensured by thorough clinical investigations including echocardiography. Serum was frozen and later analyzed by enzyme-linked immunosorbent assay (ELISA).

Results: Median 5-HT concentration was 252.5 (interquartile range=145.5-390.6) ng/mL. Overall breed difference was found (p<0.0001), and 42% of pairwise breed comparisons were significant. Univariate regression analysis showed association between serum 5-HT concentration and breed, center of examination, storage time, and sex, with higher 5-HT in females. In multiple regression analysis, the final model had an adjusted R2 of 0.27 with breed (p<0.0001), center (p<0.0001), and storage time (p=0.014) remaining significant. Within centers, overall breed differences were found at 3/5 centers (p<=0.028), and pairwise comparisons within those centers showed breed differences in 42% of comparisons. Among the included breeds, Newfoundlands, Belgian Shepherds and CKCSs had highest 5-HT concentrations. Conclusions: Interbreed variation in serum 5-HT concentration was found in healthy dogs aged 1-7 years. These differences should be taken into account when designing clinical studies.
Language
English.
Year of Publication
2018

Citation 53.
Accession Number
20183385580
Author
Rishniw, M.
Title
Murmur grading in humans and animals: past and present.
Source
Journal of Veterinary Cardiology; 2018. 20(4):223-233.
Publisher
Elsevier Ltd
Country of Publication
UK
Abstract
Cardiac murmurs were first described approximately 200 years ago. Subsequently, various clinicians, starting with Samuel Levine, have proposed grading schemes, depicting intensity, or other murmur characteristics, in an attempt to differentiate pathological and physiological murmurs or different degrees of pathology. In the 1960s, these schemes were adapted by veterinary cardiologists and have been used over the last 50 years. However, the clinical utility of these schemes has only recently been examined in veterinary medicine (and never examined in humans), and these studies suggest that the current, commonly used murmur grading scheme is unnecessarily complex and contains redundant information. A simpler, more intuitive grading scheme might achieve the same desired outcome as the more complex scheme, potentially with less confusion. This review examines the history of murmur grading and proposes a reconsideration of the current grading scheme to improve clinical communication.
Language
English.
Year of Publication
2018

Citation 72.
Accession Number
20183382125
Author
Alihosseini, H.; Colakoglu, E. C.; Haydardedeoglu, A. E.;
Title
Radiographic cardiomegaly in dogs: from radiography to clinical approach. [Turkish]
Source
Veterinary Journal of Mehmet Akif Ersoy University; 2017. 2(2):163-170. 21 ref.

Publisher
Mehmet Akif Ersoy University
Country of Publication
Turkey
Abstract
Radiographic cardiomegaly means that the heart silhouette is above the normal reference values in thorax radiographs. Cardiomegaly is not a symptom of a disease alone, but it can also occur as a result of other underlying diseases. Although physicians usually rule out secondary disease related to radiographic cardiomegaly, cardiomegaly sign in chest X-rays are usually associated with heart diseases. This review consider the diagnostic and clinical approaches starting with the detection of radiographic cardiomegaly and the process leading up to the diagnosis.
Language
Turkish.
Year of Publication
2017

Citation 78.
Accession Number
20183378472
Author
Serdean, C.; Foteini, L. K.; Popa, A. M.; Constantinescu, V.; Codreanu, M. D.;
Title
The management of ionic disorders with cardiac repercussion.
Source
Revista Romana de Medicina Veterinara; 2018. 28(1):47-58. 65 ref.
Publisher
Asociatia Generala a Medicilor Veterinari din Romania
Country of Publication
Romania
Abstract
Ionic disorders with pathogenetic involvement in the cardiovascular system in veterinary medicine has become a subject of interest due to the increased possibilities of paraclinical testing, the diagnosis, the therapeutic management and the efficiency of the administered drugs. Dietary and medicinal management in the subsequent disorders of ionic disorders refers to both emergency treatment by promptly correcting the expressed disorders but also by maintaining supplementation and diet.
Language
English.
Year of Publication
2018

Citation 95.
Accession Number
20183372478
Author
Caldas, I. S.; Menezes, A. P. de J.; Diniz, L. de F.; Nascimento, A. F. da S. do; Novaes, R. D.; Caldas, S.; Bahia, M. T.;
Title
Parasitaemia and parasitic load are limited targets of the aetiological treatment to control the progression of cardiac fibrosis and chronic cardiomyopathy in Trypanosoma cruzi-infected dogs.
Source
Acta Tropica; 2019. 189:30-38. many ref.
Publisher
Elsevier B.V.

Country of Publication
Netherlands
Abstract
It is still unclear whether the progression of acute to chronic Chagas cardiomyopathy is predominantly associated with the limited efficacy of aetiological chemotherapy, or with the pharmacological resistance profiles and pathogenicity of specific Trypanosoma cruzi strains. Thus, we tested the hypothesis that parasitic load could be a limited target of aetiological chemotherapy to prevent chronic cardiomyopathy in dogs infected by different T. cruzi strains. Animals were infected with benznidazole-susceptible (Berenice-78) and -resistant (VL-10 and AAS) strains of T. cruzi. A quantitative real-time PCR strategy was developed to comparatively quantify the parasite load of the three different strains using a single standard curve. For dogs infected with the VL-10 strain, benznidazole treatment reduced cardiac parasitism during the acute phase of infection. However, similar parasite load and collagen deposition were detected in the myocardium of treated and untreated animals in the chronic phase of the infection. In animals infected with the AAS strain, benznidazole reduced parasite load, myocarditis and type III collagen deposition in the acute phase. However, increased type III collagen deposition was verified in the chronic phase. Dogs infected with the Berenice-78 strain showed a parasitological cure and no evidence of myocardial fibrosis. Parasitic load and cardiac fibrosis presented no correlation in acute or chronic phases of T. cruzi infection. Our findings in a canine model of Chagas disease suggest that parasite burden is a limited predictor for disease progression after treatment and show that benznidazole, although not inducing parasitological cure, is able to prevent total fibrosis in the early stages of infection, as well as complete prevention of cardiac damage when it eliminates parasites at the onset of infection.
Language
English.
Year of Publication
2019

Citation 105.
Accession Number
20183370567
Author
Dutton, E.; Lopez-Alvarez, J.;
Title
An update on canine cardiomyopathies - is it all in the genes?
Source
Journal of Small Animal Practice; 2018. 59(8):455-464. many ref.
Publisher
Wiley
Country of Publication
UK
Abstract
Dilated cardiomyopathy is the second most common cardiac disease in dogs and causes considerable morbidity and mortality. Primary dilated cardiomyopathy is suspected to be familial, and genetic loci have been associated with the disease in a number of breeds. Because it is an adult-onset disease, usually with late onset, testing breeding dogs and bitches before breeding for a genetic mutation that could lead to dilated cardiomyopathy would be helpful to prevent disease. There is growing evidence that the genetic basis may be multigenic rather than monogenic in the majority of studied breeds. This review article describes the known genetic aspects of canine dilated cardiomyopathy and the implications of genetic tests on heart testing and the future of veterinary cardiology.
Language
English.
Year of Publication
2018

Citation 113.
Accession Number
20183367712
Title
Transient myocardial thickening in cats with heart failure.
Source
Advances in Small Animal Medicine and Surgery; 2018. 31(10):3-4.
Publisher
Elsevier Inc.
Country of Publication
USA
Language
English.
Year of Publication
2018

Citation 115.
Accession Number
20183367518
Author
Madalina, C.; Baisan, R. A.; Birsan, O.; Vulpe, V.;
Title
Clinical and paraclinical examination of cardiopathies in domestic carnivores.
Source
Lucrari Stiintifice - Universitatea de Stiinte Agricole a Banatului Timisoara, Medicina Veterinara; 2018. 51(4):17-20. 7 ref.
Publisher
Facultatea de Medicina Veterinara
Country of Publication
Romania
Abstract
An efficient diagnostic planning is the first step in physical examination of dogs and cats with cardiac diseases. Signalments represents the objective database and include the age, breed and gender. History can reveal if the animal manifest signs of heart disease such as dyspnea, exercise intolerance, syncope, coughing and cyanosis. Physical examination should include inspection of the patient, palpation and auscultation of the heart. Troponin and NT-Pro-BNP represent the main characteristics of the paraclinical exam. In conclusion both information from physical and paraclinical exams comprise the foundation for diagnosis, initial treatment and evaluating response to therapy.
Language
English.
Year of Publication
2018

Citation 116.
Accession Number
20183367499
Author
Raduta, A.; Braslasu, C. M.; Simiz, F.; Braslasu, D.; Goanta, A.;
Title
The effect of selenium supplementation on the myocardium of chicks (Gallus gallus domesticus) - echocardiography study.
Source

Lucrari Stiintifice - Universitatea de Stiinte Agricole a Banatului Timisoara, Medicina Veterinara; 2018. 51(2):112-118. 5 ref.

Publisher

Facultatea de Medicina Veterinara

Country of Publication

Romania

Abstract

The study aims to monitor the effect of selenium supplementation in chicks. To this effect we formed two groups of 2 week-old Cobb-500 chicken: a control group (n=10) and a treatment group (n=10), which received 0.5 ppm organic selenium (0,25 g ALKOSEL R397 per 1 kilogram mixed fodder) for 30 days. The echocardiographic examination was used to evaluate cardiac dimensions and function by measuring the fractional shortening (FS), ejection fraction (EF) and heart rate (HR). The results demonstrated a fractional shortening of 43.62% compared to 21.62% (control); the ejection fraction measured was 76.25% compared to 43.87% (control) and the heart rate was 381.25 versus 356.12 in the control group. These indices demonstrate an increase in cardiac contractile force and a slight increase in heart rate, which correlate with an improvement in heart function.

Language

English.

Year of Publication

2018

Citation 126.

Accession Number

20183366029

Author

Krauss, R. H.; Phipson, B.; Oshlack, A.; Prasad-Gupta, N.; Cheung, M. M.; Smolich, J. J.; Pepe, S.;

Title

Shifts in ovine cardiopulmonary microRNA expression in late gestation and the perinatal period.

Source

PLoS ONE; 2018. 13(9):e0204038. 46 ref.

Publisher

Public Library of Sciences (PLoS)

Country of Publication

USA

Abstract

Background: MicroRNAs (miRNAs) have been identified as important contributors to the regulation of early fetal cardiopulmonary development. However, miRNA expression profiles during late gestation and the early neonatal period are not fully elaborated in large mammals such as sheep (ovis aries). The aim of this study was to sequence miRNA from cardiopulmonary tissues in late gestation and neonate sheep to identify changes in miRNA expression. Methods: Illumina HiSeq next-generation deep sequencing (NGS) was performed on ovine tissues from the left (LV) and right ventricles (RV), lungs and pulmonary artery (PA) of preterm fetuses (128 days), near-term fetuses (140 days) (term=148 days) and neonatal lambs (5 days). NGS reads were mapped to the sheep genome (OviAri) and published miRNA sequences. Results: Of 1345 cardiopulmonary miRNAs that were sequenced, relatively few major shifts in miRNA expression were detected with increased age from near term to neonates, and were confirmed by quantitative real-time PCR: bta-miR-146a (lung), bta-miR-22-3p (lung, LV), hsa-miR-335* (lung, PA), and miR-210 (lung, PA, LV). Conclusions: Sequencing of miRNA led to identification of four predominant miRNA in ovine cardiopulmonary tissues which alter expression during late gestation and the early neonatal period, concurrent with important functional changes in heart and lungs.

Language

English.

Year of Publication

2018

Citation 132.
Accession Number
20183364150
Author
Larouche-Lebel, E.; Oyama, M.;
Title
Ventricular arrhythmias in small animals.
Source
Companion Animal; 2018. 23(11):638-643. 30 ref.
Publisher
MA Healthcare Limited
Country of Publication
UK
Abstract
Ventricular arrhythmias frequently encountered in small animal practice can range from benign to life-threatening. Their timely recognition and accurate diagnosis are fundamental to proper management. Severe ventricular arrhythmias can result in decreased cardiac output and clinical signs such as intolerance to activity, or syncope. Ventricular arrhythmias such as ventricular fibrillation are a cause of sudden death. Diagnosis is made by electrocardiography, and is usually characterised by wide and bizarre QRS complexes. Ventricular arrhythmias can be secondary to cardiac or extracardiac causes. Breeds such as Boxers and Doberman Pinschers are at high risk to develop ventricular arrhythmias and subsequent sudden death if they are affected by underlying cardiomyopathy. Treatment of ventricular arrhythmias is based on patient signalment; the presence or absence of clinical signs; and the complexity, rate, frequency and number of ventricular arrhythmias. Various intravenous or oral antiarrhythmic therapies are available to the practitioner. Antiarrhythmic medications act on various ion channels or receptors, and alter the myocardial action potential. Electrical defibrillation and cardioversion can also be used for certain life-threatening ventricular rhythms. Patient monitoring, including monitoring of treatment efficacy, is often performed using serial electrocardiograms or 24-hour ambulatory ECG (Holter) monitoring.
Language
English.
Year of Publication
2018

Citation 150.
Accession Number
20183358908
Author
Dixon-Jimenez, A. C.; Coleman, A. E.; Rapoport, G. S.; Creevy, K. E.; Roth, I.; Correa, M.; Moorhead, A. R.;
Title
Approaches to canine heartworm disease treatment among alumni of a single college of veterinary medicine.
Source
Journal of the American Animal Hospital Association; 2018. 54(5):246-256.
Publisher
American Animal Hospital Association
Country of Publication
USA
Abstract
This descriptive study was designed to ascertain the current heartworm treatment strategies employed by veterinary graduates of a single college of veterinary medicine, to assess the frequency with which each of these treatment strategies is prescribed, and to report the motivation behind the use of these treatment strategies. A survey containing a combination of multiple-choice and open-ended questions was distributed

via e-mail with an online link during 2013 to graduates of the University of Georgia College of Veterinary Medicine. Demographic data and opinions regarding treatment for cases of canine heartworm disease (HWD) were obtained, and motivation for recommending different treatment strategies was assessed. Nearly all 170 respondents (99%) indicated that they recommend melarsomine dihydrochloride for first-line treatment of canine HWD. Exercise restriction (80%) and monthly heartworm preventive (75%) were components of the treatment approach to HWD with no clinical signs. The majority of respondents (74%) indicated that when first-line treatment recommendations were declined, they endorsed long-term administration of ivermectin (i.e., "slow-kill" method) despite current American Heartworm Society guidelines that recommend against the use of long-term macrocyclic lactone administration for the monotherapy treatment of canine HWD. Respondents also indicated that owners' financial concerns frequently result in modification of HWD treatment. Routine inclusion of exercise restriction is commonly, but not universally, utilized and may represent an opportunity for improvement in the management of this disease. In addition, when first-line recommendations for heartworm disease treatment are declined, a two-dose melarsomine protocol instead of the slow-kill method should be considered.
Language
English.
Year of Publication
2018

Citation 152.
Accession Number
20183358905
Author
Clark, G. K.; Spier, A.; Nestor, D.; Rizzo, S.;
Title
Bacterial endocarditis of the pulmonic valve in a dog.
Source
Journal of the American Animal Hospital Association; 2018. 54(5):unpaginated.
Publisher
American Animal Hospital Association
Country of Publication
USA
Abstract
An 11 yr old female spayed golden retriever weighing 30.3 kg presented for evaluation of progressive lethargy, anorexia, tachypnea, stiff gait, and nonlocalized pain. On physical exam, the patient was febrile and tachycardic, and an arrhythmia with pulse deficits was noted. Clinicopathological abnormalities included thrombocytopenia, leukocytosis, nonregenerative anemia, and mild hypoalbuminemia. The patient progressed overnight to develop a productive cough, and an echocardiogram performed the next morning revealed irregular proliferative lesions of the pulmonic valve with moderate pulmonic regurgitation. Subsequent blood cultures grew two organisms: alpha-hemolytic streptococci spp. and Empedobacter brevis. The dog was treated with appropriate intravenous antibiotics for 2 wk and then switched to oral therapy. The clinicopathologic abnormalities, fever, and clinical signs resolved with oral antibiotic treatment. To the authors' knowledge, this case report represents the first detailed published case of bacterial endocarditis with E brevis bacteremia involving the pulmonic valve. The clinical presentation, diagnosis, treatment, and follow-up are discussed.
Language
English.
Year of Publication
2018

Citation 153.
Accession Number
20183358902

Author
DeSandre-Robinson, D. M.; Quina, M. T.; Lurie, D. M.;
Title
Pericardial hemangiosarcoma in a 10-year-old papillon.
Source
Journal of the American Animal Hospital Association; 2018. 54(5):unpaginated.
Publisher
American Animal Hospital Association
Country of Publication
USA
Abstract
A 10 yr old papillon was evaluated for lethargy, inappetence, tachypnea, and labored breathing. Physical examination findings included dehydration, tachypnea, tachycardia, and muffled heart sounds. Thoracic radiographs revealed an enlarged cardiac silhouette. Echocardiography revealed a mild volume of pericardial effusion and no evidence of right atrial tamponade or a cardiac-associated mass. Cytological analysis of the pericardial effusion was consistent with blood. There was no evidence of neoplasia. Coagulation parameters were within normal limits. Initial treatment consisted of pericardiocentesis. A subtotal pericardiectomy was later performed. No surgical complications were noted, and the dog was discharged 2 days following surgery. Results of the histological examination of the pericardium revealed hemangiosarcoma. Treatment with doxorubicin was initiated 12 days after surgery, at which time, pulmonary metastasis was suspected. The dog survived for 18 days after subtotal pericardiectomy, when it was euthanized because of complications presumably related to pulmonary metastatic disease. This is the first published report of primary pericardial hemangiosarcoma. The dog had a short survival time; thus, the response to subtotal pericardiectomy combined with adjuvant doxorubicin treatment could not be determined. Pulmonary metastatic disease was suspected 12 days following surgery. Based on this case report, pericardial hemangiosarcoma carries a guarded prognosis.
Language
English.
Year of Publication
2018

Citation 155.
Accession Number
20183358877
Author
Argenta, F. F.; Pavarini, S. P.; Driemeier, D.; Sonne, L.;
Title
Congenital abnormalities of the heart and large vessels of dogs. [Portuguese]
Source
Pesquisa Veterinaria Brasileira; 2018. 38(6):1184-1189. 16 ref.
Publisher
Colegio Brasileiro de Patologia Animal
Country of Publication
Brazil
Abstract
Congenital alterations of the heart and large vessels (CAHLV) are defined as morphological defects associated with birth and are the most frequent congenital anomalies of domestic animals. The aim of this study was to determine the frequency of CAHLV in dogs in Rio Grande do Sul, with emphasis in the Metropolitan Region of Porto Alegre, from January 2000 to December 2016. Of the 7,903 necropsied dogs, 27 died spontaneously or were submitted to euthanasia due to CAHLV, representing 0.3% of the cases. In 11.1% of the dogs, there were two congenital disorders in the heart or in the great vessels, totaling 30 changes. The age of affected dogs ranged from one day to 12 years, with the median age of four months. In 81.5% it affected dogs with breed, and 18.5%, without breed defined. In 51.8% were males, and 48.2%, females. Subaortic stenosis was the most frequent alteration, followed by atrial septal defect, persistent

right aortic arch, patent ductus arteriosus, pulmonic stenosis, ventricular septal defect, and endocardial fibroelastosis. Of the multiple cases, the combinations found were: patent ductus arteriosus associated with atrial septal defect, subaortic stenosis with ventricular septal defect, and atrial and ventricular septal defect.

Language
Portuguese.

Year of Publication
2018

Citation 162.

Accession Number
20183357941

Author
Ombati, R.; Luo Lei; Yang ShiLong; Lai Ren;

Title
Centipede envenomation: clinical importance and the underlying molecular mechanisms. (Special Issue: Arthropod assassins: crawling biochemists with diverse toxin pharmacopeias.)

Source
Toxicon; 2018. 154:60-68. many ref.

Publisher
Elsevier Ltd

Country of Publication
UK

Abstract
Centipede bites are usually characterized by mildly to moderately painful encounters with humans, however, they are relatively infrequent. The vast majority of centipede envenomations do not cause severe symptoms and only in very rare cases more serious symptoms such as myocardial ischemia and infarction, hematuria, hemoglobinuria, rhabdomyolysis, hemorrhage, pruritus, eosinophilic cellulitis, as well as anaphylaxis are observed. More prevalent are symptoms including pain, paresthesia, lethargy, localized necrosis, headache, dizziness and nausea. The numerous symptoms and complications elicited by these envenomations indicate that centipede venom possesses an arsenal of chemical components with functional diversity. Centipede venom is a rich and complex natural source of bioactive proteins, peptides and other small molecules that aid in predation or defense. The venom can induce myotoxic, cardiotoxic, neurotoxic and other toxic effects. The constituents target different cellular processes and pathways which in turn trigger a cascade of physiological reactions in the victim. The venom components are potent and selective on peripheral targets; thus, they are valuable in studying the molecular basis of these envenomation symptoms and complications. This review highlights the clinical importance of centipede envenomation and the recent discoveries on the underlying molecular mechanisms of the resulting symptoms which is crucial in therapy.

Language
English.

Year of Publication
2018

Citation 169.

Accession Number
20183337705

Author
Auriemma, E.; Armienti, F.; Morabito, S.; Speechi, S.; Rondelli, V.; Domenech, O.; Guglielmini, C.; Lacava, G.; Zini, E.; Khouri, T.;

Title
Electrocardiogram-gated 16-multidetector computed tomographic angiography of the coronary arteries in dogs.

Source
Veterinary Record; 2018. 183(15):473.
Publisher
BMJ Publishing Group
Country of Publication
UK
Abstract
The aims of this study were to assess if ECG-gated 16-multidetector CT (MDCT) provides sufficient temporal and spatial resolution to evaluate canine coronary arteries and provide a detailed description of their anatomy. A total of 24 dogs were included. Images were reviewed to assess; (1) coronary artery opacification and dominance; (2) choice of optimal R-R EGG reconstruction interval for both left coronary artery (LCA) and right coronary artery (RCA); (3) branching patterns of the left main coronary artery (LMCA); and (4) diameter and length of the LCA and RCA and classification of their branches by adapting a previously described segmental coding system. The degree of opacification of the coronary arteries was subjectively judged as excellent or good in five and 19 dogs, respectively. All hearts showed a left coronary dominance. The best R-R reconstruction interval for both LCA and RCA arteries was 75 per cent. Seven different subtypes of LMCA branching patterns were noted. The rami circumflexus and interventricularis paraconalis were divided into three angiographic segments, and the ramus septi interventricularis and the RCA in two and three segments, respectively. ECG-gated 16-MDCT coronary angiography provides adequate resolution to assist the basic anatomy of the main coronary artery branches.
Language
English.
Year of Publication
2018

Citation 170.
Accession Number
20183337669
Author
Woodmansey, D.
Title
New heartworm threat to UK dogs is identified.
Source
Veterinary Times; 2018. 48(42):1. 3 ref.
Publisher
Veterinary Business Development Ltd
Country of Publication
UK
Language
English.
Year of Publication
2018

Citation 171.
Accession Number
20183337650
Author
Vester, S.; Pil, S.; Liekens, V.; Goethem, B. van; Binetti, A.; Saunders, J.; Smets, P.;
Title
Patent ductus arteriosus and pulmonic stenosis in a Labrador retriever. [Dutch]
Source
Vlaams Diergeneeskundig Tijdschrift; 2018. 87(5):271-276. 19 ref.
Publisher

Faculty of Veterinary Medicine, University of Ghent
Country of Publication
Belgium
Abstract
A three-month-old, female, entire, Labrador retriever was presented after being referred because of a suspected congenital heart disorder. The dog did not show any symptoms, but on clinical examination, there was a loud continuous heart murmur with a thrill present (grade 5 out of 6), located at the left heart base. Echocardiographic examination revealed the presence of a patent ductus arteriosus (PDA) and pulmonic stenosis (PS). One and a half month after initial presentation, the PDA was surgically closed. The PS was treated with the beta -blocker atenolol and followed up to evaluate the response to therapy and the potential need for a balloon valvuloplasty. This case demonstrates the necessity of a qualitative and complete echocardiographic evaluation in young dogs with a heart murmur. Even if the cause of the heart murmur can easily be identified, in the present case patent ductus arteriosus, it is important to screen for additional abnormalities, as in this case pulmonic stenosis.
Language
Dutch.
Year of Publication
2018

Citation 178.
Accession Number
20183353827
Author
Azeez, O. M.; Basiru, A.; Akorede, G. J.; Adah, S. A.;
Title
Electrocardiographic parameters in West African Dwarf and Red Sokoto (Maradi) goats.
Source
Sokoto Journal of Veterinary Sciences; 2018. 16(2):41-46. 23 ref.
Publisher
Sokoto Journal of Veterinary Sciences
Country of Publication
Nigeria
Abstract
The aim of this study was to establish normal electrocardiographic (ECG) values for standard lead II in West African Dwarf goats (WAD) and Red Sokoto Goats (RS). Electrocardiographic study of 11 healthy WAD and 11 RS goats 10 months to 2 years of age was carried out with EDAN 10 Veterinary Electrocardiographic equipment. Record from Lead II showed the heart rate varied from 87 to 175 beats/min with a mean of 149.55+or-51.13 beats/min for RS goats; and 142-272 with a mean of 171.5+or-39.7 for WAD goats. The difference was significant between the heart rate of the two goat breeds ($P<0.05$). The P wave appeared prolonged and of multifocal atria rhythm. The mean P wave was 0.11+or-0.24 in WAD goats and 0.11+or-.059 in RS goats. The mean QRS complex was 0.065+or-0.21 sec in WAD goats and 0.059+or-0.35 in RS goats. The QT was prolonged in the breeds, with appearance of U wave in some. The prolonged QT interval suggested prolonged ventricular repolarization which may be as a result of the deeply penetrating Purkinje system in ruminants that gave rise to explosive spread of waves in many directions from ventricular endocardium to epicardium.
Language
English.
Year of Publication
2018

Citation 180.
Accession Number
20183353746

Author
Leong ZiPing; Arita, S.; Hikasa, Y.;
Title
Long-term effect of low-dose imatinib therapy for pulmonary hypertension due to chronic degenerative mitral valve disease in six dogs.
Source
Thai Journal of Veterinary Medicine; 2018. 48(3):499-505. many ref.
Publisher
Faculty of Veterinary Science, Chulalongkorn University
Country of Publication
Thailand
Abstract
Six dogs were diagnosed with pulmonary hypertension (PH) secondary to chronic degenerative mitral valve disease (CDMVD) on echocardiography. Imatinib (3 mg/kg, every 24 hours, PO) was initiated without any changes to the background therapy to treat the PH. Follow-up evaluations at 1, 3, 5 and 6 months revealed substantial clinical and hemodynamic improvements. One dog showed deterioration after the imatinib withdrawal to necessitate a restart therapy. No side effects were observed throughout the 6-month treatment course. Low-dose imatinib may provide a promising treatment alternative for CDMVD-associated PH in dogs.
Language
English.
Year of Publication
2018

Citation 181.
Accession Number
20183353744
Author
Kaya, M.; Cenesiz, M.;
Title
The electrocardiogram of the conscious Chinese goose (Anser cygnoides).
Source
Thai Journal of Veterinary Medicine; 2018. 48(3):487-492. 24 ref.
Publisher
Faculty of Veterinary Science, Chulalongkorn University
Country of Publication
Thailand
Abstract
This study was carried out on 24 healthy adult Chinese goose (Anser cygnoides) to determine normal electrocardiographic values and patterns in standard bipolar and augmented bipolar limb leads. The study between males and females was also performed to investigate changes in the electrocardiographic patterns related to sex. A regular sinus rhythm was observed in all birds. There was no significant difference between male and female geese except for PR interval, therefore, all data was pooled. All waves in lead I had very low amplitude or almost isoelectric. The P waves, in other leads, were mainly positive in lead II, III and aVF, negative in lead aVR and biphasic in lead aVL. The all waveforms of the QRS complexes (approx. -0.90 mV and 0.03 seconds in lead II) were rS in lead II, III and aVF, and qR in lead aVR and aVL. The T waves (approx. 0.31 mV and 0.06 seconds in lead II) were totally positive in lead II, III and aVF, and negative in aVR and aVL. The majority of birds showed a ST slurring and slightly elevated ST segment in lead II. Heart rates were 142+or-25 (Mean+or-SD) beats per minute and mean electrical axes were -90.88+or-4.57 degrees in geese. This study provides electrocardiographic data for Chinese goose, which can be used for clinical purposes.
Language
English.
Year of Publication

Citation 182.
Accession Number
20183353739
Author
Tachampa, K.; Lertwanakarn, T.; Atchariyasakchai, P.; Pumpitakkul, V.; Kireewan, S.; Buranakarl, C.;
Title
Effects of coenzyme Q10 supplementation on cardiac troponin I level, heart rate variability, and echocardiographic profiles in canine with myxomatous degenerative mitral valve disease: a pilot study.
Source
Thai Journal of Veterinary Medicine; 2018. 48(3):443-452. many ref.
Publisher
Faculty of Veterinary Science, Chulalongkorn University
Country of Publication
Thailand
Abstract
The clinical benefits of Coenzyme Q10 (CoQ10) have been well documented in heart failure patients. In veterinary medicine, however, the clinical benefits of CoQ10 have not been well established in dogs with heart diseases. This study aimed to determine the effects of CoQ10 supplementation on (1) preventing myocardial injury (2) cardiac function (3) autonomic balance in dogs with myxomatous degenerative mitral valve disease (MMVD). Thirteen dogs with MMVD at ACVIM stage C were recruited in this study. Dogs were further divided into group I (Body weight [BW] <6 kg.; n=7) and group II (BW >=6 kg.; n=6). Cardiac troponin I (cTnI), echocardiographic examination, and 2 hours of Holter recording were performed on Day 0 and after receiving CoQ10 at 100 mg/dog twice daily for 28 days. CoQ10 caused a reduction of cTnI level in 71% of the dogs. Median cTnI tended to cause tended to decline but not significantly. Systolic function [i.e. fractional shortening (FS) and ejection fraction (EF)] increased significantly by 8% and 9% (P<0.05), respectively in group I after CoQ10 supplementation. Other echocardiographic parameters were not altered in either group. HRV analysis revealed no change in autonomic function and balance. cTnI negatively correlated with FS (P<0.01) and positively correlated with LF/HF ratio (P<0.05). In conclusion, this study demonstrated the clinical benefits of CoQ10 supplementation in dogs with MMVD. CoQ10 improves cardiac function in small dogs with MMVD. Finally, supplementation of CoQ10 in dogs should be based on body weight.
Language
English.
Year of Publication
2018

Citation 184.
Accession Number
20183353675
Author
Blake, R.
Title
The use of cardiac biomarkers in dogs and cats.
Source
Companion Animal; 2018. 23(10):569-577. many ref.
Publisher
MA Healthcare Limited
Country of Publication
UK
Abstract

Cardiac biomarkers can be helpful in differentiating cardiac from non-cardiac disease in dyspnoeic patients; in detecting occult heart disease; and in determining prognosis in patients with both cardiac and some non-cardiac diseases. Cardiac troponin I and N-terminal proB-type natriuretic peptide are the cardiac biomarkers most widely used in clinical practice and can easily be measured from a blood sample. However, there are limitations in their use, and appropriate interpretation of results is important. This article discusses the physiology of these biomarkers and the evidence available for their use in dogs and cats.

Language
English.
Year of Publication
2018

Citation 192.
Accession Number
20183352921
Author
Santarelli, G.; Talavera Lopez, J.; Fernandez del Palacio, J.;
Title
Evaluation of the right parasternal four-chamber view for the assessment of left ventricular longitudinal strain and strain rate by two-dimensional speckle tracking echocardiography in dogs.
Source
Research in Veterinary Science; 2018. 120:78-85. 47 ref.
Publisher
Elsevier Ltd
Country of Publication
UK
Abstract
Two-dimensional (2-D) speckle tracking echocardiography (STE) is a relatively new imaging technique, introduced in veterinary medicine to aid the assessment of left ventricular (LV) myocardial function. Among other indices, LV longitudinal strain and strain rate (SR) can be measured with this modality, and in dogs they are usually obtained from the left apical four-chamber (LAp4Ch) view. However, in this species, a good quality right parasternal four-chamber (RP4Ch) view can generally be attained, and the aim of this study was therefore to determine its feasibility and reliability for longitudinal strain and SR assessment, and to establish whether the two projections can be used interchangeably. Fifty-one healthy dogs and twenty-five dogs with various cardiac diseases were examined. Longitudinal global and segmental strains and global SR of the LV were obtained with 2-D STE by use of RP4Ch and LAp4Ch views. Intra-observer (within-day and between-day) and inter-observer variabilities were established, and strain and SR values obtained from the two views were compared. The RP4Ch view demonstrated to be feasible for the assessment of longitudinal strain and SR by use of 2-D STE in healthy and diseased dogs. However, out of sector motion of the apical segments could occur and induce tracking errors. The deformation parameters obtained from this view and the LAp4Ch view were often significantly different, and therefore they should not be used interchangeably. Further, the software employed in the present study performed better global than segmental strain analysis for both views.

Language
English.
Year of Publication
2018

Citation 193.
Accession Number
20183351529
Author
Pacholska-Bogalska, J.; Szymczak, M.; Marciniak, P.; Walkowiak-Nowicka, K.; Rosinski, G.;

Title
Heart mechanical and hemodynamic parameters of a beetle, Tenebrio molitor, at selected ages.
Source
Archives of Insect Biochemistry and Physiology; 2018. 99(1):e21474. many ref.
Publisher
Wiley
Country of Publication
USA
Abstract
The physiological processes that occur during the aging of insects are poorly understood. The aim of this study was to describe the changes in contractile activity and hemodynamic parameters of the heart that take place as the coleopteran beetle, Tenebrio molitor, ages. The frequency of heart contractions in beetles that had just undergone metamorphosis (median 24.7 beats/min) was significantly lower than the frequency of heart contractions in older beetles. In 56% of beetles that were <1 week of age, a pattern of contractile activity with alternating periods of higher and lower contraction frequency was detected, suggesting that some posteclosion developmental processes occur during the first week of adulthood. All beetles that were 1 week of age showed a regular rhythm of heart contractions (median 72 beats/min). In older beetles, abnormalities such as heart arrhythmias or heart arrest were observed. The incidence of arrhythmia as well as the arrhythmicity index was highest in beetles that were 8-18 weeks old. The calculated stroke volume (SV) was also found to increase from eclosion to 12 weeks of age, and then decreased as adults aged further. Interestingly, cardiac output increased gradually, but the ejection fraction did not change significantly with age.
Language
English.
Year of Publication
2018

Citation 197.
Accession Number
20183351342
Author
Visser, L. C.; Kaplan, J. L.; Nishimura, S.; Gunther-Harrington, C. T.; Belanger, C.; Oldach, M. S.; Stern, J. A.; Mueller, M. S.;
Title
Acute echocardiographic effects of sotalol on ventricular systolic function in dogs with ventricular arrhythmias.
Source
Journal of Veterinary Internal Medicine; 2018. 32(4):1299-1307. 31 ref.
Publisher
Wiley
Country of Publication
USA
Abstract
Background: Sotalol is a commonly used antiarrhythmic drug that may alter ventricular function. Objective: To determine the effect of sotalol on echocardiographic indices of ventricular systolic function in dogs with ventricular arrhythmias. Animals: Thirty-five client-owned dogs with ventricular arrhythmias. Methods: Dogs with ventricular arrhythmias (n=27) had an echocardiogram and 5-minute ECG performed at baseline and 2-4 hours post-sotalol (2-2.5 mg/kg PO once). Eight additional dogs underwent the same protocol but did not receive sotalol (within-day variability controls). Left ventricular (LV) internal dimension at end-systole normalized to bodyweight (LVIDs_N), LV ejection fraction (LV EF), LV shortening area, LV fractional shortening, tricuspid annular plane systolic excursion (TAPSE), and right ventricular systolic myocardial velocity were evaluated as indices of systolic function. Results: All indices except TAPSE had mild decreases in systolic function post-sotalol (all P<=.0007) compared with baseline but only the percent change in LVIDs_N and LV EF were significantly (P<=.0079) different from the percent change of the same indices in

control dogs. Sinus heart rate, ventricular premature complexes/5-minutes, and arrhythmia grade also were decreased post-sotalol (all P<=.01) compared with baseline when assessed by a 5-minutes ECG. No dog experienced an adverse event post-sotalol, including dogs with systolic dysfunction or atrial enlargement. Conclusions and Clinical Importance: A single dose of sotalol may cause a mild decrease in LV systolic function in dogs with ventricular arrhythmias. Sotalol appears to be well tolerated, even in dogs with atrial enlargement or systolic dysfunction.

Language
English.
Year of Publication
2018

Citation 199.
Accession Number
20183351162
Author
Goya, S.; Kanno, N.; Teshima, K.; Anndo, T.; Fujioka, T.;
Title
Surgery for partial atrioventricular septal defect with pulmonary hypertension in an adult dog.
Source
Journal of Veterinary Medical Science; 2018. 80(7):1183-1189. 37 ref.
Publisher
Japanese Society of Veterinary Science
Country of Publication
Japan
Abstract
A 4-year-old, 5.9-kg female Japanese Spitz presented with syncope and exercise intolerance. Echocardiography revealed an ostium primum atrial septal defect (ASD), a cleft mitral valve, mitral valve regurgitation (MR), and tricuspid regurgitation (TR) (velocity: 3.6 m/sec, pressure gradient: 52 mmHg), leading to a diagnosis of partial atrioventricular septal defect (AVSD) with moderate pulmonary hypertension (PH). Open-heart surgery using cardiopulmonary bypass was performed through right atriotomy. The cleft of the mitral valve was sutured with polypropylene and the AVSD was closed using an autologous pericardial patch fixed with glutaraldehyde. No postoperative pulmonary hypertensive crisis occurred. Shunting flow through the ASD, TR and PH had completely disappeared 2 months postoperatively; however, moderate MR persisted. The dog is still alive 5 years postoperatively without clinical signs.
Language
English.
Year of Publication
2018

Citation 203.
Accession Number
20183348637
Author
Pace, C.
Title
A practical guide to heart murmurs for veterinary nurses.
Source
The Veterinary Nurse; 2018. 9(7):378-381.
Publisher
MA Healthcare Limited
Country of Publication

UK
Abstract
Heart murmurs are a relatively common finding in small animal medicine, and are additional sounds to the normal 'lub' and 'dub' heard on auscultation. The most common type of murmur recorded is a systolic murmur, and can be an indicator of disease severity in dogs with mitral valve disease. However, murmur intensity is not related to the severity of dilated cardiomyopathy, and in cats, having a murmur has been linked to a favourable outcome, while cats can have heart disease and have no heart murmur. It would be ideal if there was a heart murmur chart that correlated heart murmur auscultated, heart disease severity and anaesthetic risk. Unfortunately, such a thing does not exist, and it is up to the veterinary professionals involved, to interpret what heart murmurs mean and know which breeds are at risk of cardiac disease and/or cardiac failure. This means that the nurse needs to not only monitor heart rate, rhythm, and pulse quality, but also respiratory rate and effort, oxygen saturation and systolic blood pressure carefully in those suspected of, or those diagnosed with, cardiac disease.
Language
English.
Year of Publication
2018

Citation 204.
Accession Number
20183348633
Author
Elsheikha, H.
Title
A heart-breaking disease: how to prevent lungworm infection.
Source
The Veterinary Nurse; 2018. 9(7):348-355.
Publisher
MA Healthcare Limited
Country of Publication
UK
Abstract
Since first detected in the British Isles, in a Greyhound in Ireland in 1968, the lungworm Angiostrongylus vasorum has spread to become a prevalent parasitic disease, and a leading cause of morbidity and mortality, in dogs. Faced with the increasing threat posed by canine lungworm, parasitologists are tracing the geographic spread of infections; and some clinicians remain uncertain about the optimal frequency of dosing for preventive therapy. For this reason, control of canine lungworms has been an increasingly important focus of the veterinary profession, with significant progress being made on a number of fronts, particularly the diagnosis and treatment of lungworm disease. One notable success has been the development of potent anthelmintic drugs to control this disease. Despite this progress, infection due to A. vasorum remains a formidable clinical problem, and may continue to do so for many years to come. What has been learned over the past decade, is that control of lungworms is too complex to be handled by a single approach; and any attempt to do so may be unsuccessful. In this article, the author argues that the implementation of integrated parasite control strategies is crucial, in order to mitigate the risks caused by lungworms, reduce the transmission of infection and improve treatment outcomes.
Language
English.
Year of Publication
2018

Citation 208.
Accession Number
20183348267

Author
Wiese, A.
Title
Sedation for cats with cardiovascular disease.
Source
Today's Veterinary Practice; 2018. 8(5):16-17, 20-24, 26. 39 ref.
Publisher
Eastern States Veterinary Association, Inc (NAVC)
Country of Publication
USA
Language
English.
Year of Publication
2018

Citation 210.
Accession Number
20183348224
Title
Thoracic duct ligation plus subphrenic pericardiectomy for chylothorax in cats.
Source
Advances in Small Animal Medicine and Surgery; 2018. 31(8):7-8.
Publisher
Elsevier Inc.
Country of Publication
USA
Language
English.
Year of Publication
2018

Citation 214.
Accession Number
20183347968
Author
Pushpa Yanglem; Anand, R. K.; Gautam Anand;
Title
Diagnosis and management of concurrent congestive heart failure and urinary tract infection in a dog.
Source
Intas Polivet; 2018. 19(1):126-128. 12 ref.
Publisher
Intas Pharmaceuticals Ltd
Country of Publication
India
Abstract
A dog was presented with history of poor exercise tolerance, lethargy and inappetance for a week. Besides, the pet was showing stranguria and hematuria for 4-5 days. Electrocardiography indicated left ventricular hypertrophy. The blood test report revealed neutrophilia and raised total leukocyte count (TLC). The urinalysis report revealed presence of many red blood cells (RBC) and numerous pus cells. The parameters of KFT and LFT were found to be within the normal range. The dog was treated with diuretics, antibiotics, anti-inflammatory and supportive vitamins. After two days of therapy, improvement in physical activity, appetite and general health condition were observed. CST of urine sample revealed Proteus spp. with sensitivity to Amoxycillin/Sulbactam. Treatment was continued for electrocardiography was repeated after

three weeks and showed marked improvement but was advised to continue the above treatment regimen. The urine sample revealed sterile on CST.

Language
English.

Year of Publication
2018

Citation 215.

Accession Number
20183347967

Author
Shabnam Sidhu; Uppal, S. K.; Neetu Saini; Sushma Chhabra;

Title
Diagnosis of cardiomyopathies in dogs - a clinical study of twenty three patients.

Source
Intas Polivet; 2018. 19(1):121-125. 24 ref.

Publisher
Intas Pharmaceuticals Ltd

Country of Publication
India

Abstract
The study was undertaken in twenty three (23) dogs with cardiac insufficiency. The dogs showing signs of chronic cough, exercise intolerance, abdominal distension and syncope were selected and on the basis of electrocardiography (ECG) and echocardiography were diagnosed to be suffering from cardiac diseases (dilated cardiomyopathy-19 and hypertrophic cardiomyopathy-4). ECG findings in dilated cardiomyopathy (DCM) were supraventricular tachycardia, P. mitrale, P. pulmonale and increased R amplitude. M mode changes in DCM were significant increase in left ventricle (LV) dimensions, thinning of interventricular septum (IVS) and LV posterior wall, significantly reduced fractional shortening (FS%) and ejection fraction (EF%). M mode changes in hypertrophic cardiomyopathy (HCM) were decreased lumen of ventricles and increased thickening of walls and IVS. Dilated cardiomyopathy is the most common cardiomyopathy in dogs and echocardiography is the most efficient procedure for differentiation between dilated and hypertrophic cardiomyopathy.

Language
English.

Year of Publication
2018

Citation 216.

Accession Number
20183347966

Author
Pooja Badsar; Mehta, H. K.; Nema, S. P.; Kumbhkar, Y.;

Title
Cardiac abnormalities in dogs - a diagnostic study.

Source
Intas Polivet; 2018. 19(1):118-120. 22 ref.

Publisher
Intas Pharmaceuticals Ltd

Country of Publication
India

Abstract
The study was undertaken with the objective to diagnose different types of cardiac abnormalities in dogs. The ECG of selected dogs was performed by multi-parameter monitor and single channel ECG machine. The

prevalence of cardiac abnormalities was 2.41 percent (40/1655) and amongst the suspected cases (40/98) it was 40.81 percent. The prominent clinical signs observed with highest frequency of 65.00 percent were persistent coughing/dyspnea followed by 47.50, 40.00, 27.50, 15.00,7.50 and 5.00 percent lethargy/dullness/depression, anorexia/reduced appetite, exercise intolerance, abdominal distension, sudden fainting/syncope and limb edema respectively. The higher prevalence of sinus arrhythmia was 22.50 percent followed by atrial fibrillation 20.00 percent, sinus tachycardia 10.00 percent, left ventricular enlargements 10.00 percent. Prevalence of right atrial enlargement, left atrial enlargement, first degree AV block, second degree AV block and ventricular premature complexes had been observed in two dogs for each indicating 5.00 percent prevalence. Atrial premature complexes, myocardial hypoxia, ventricular hypertrophy, right bundle branch block and sinus bradycardia showed 2.50 percent prevalence rate in one dog each.

Language
English.
Year of Publication
2018

Citation 219.
Accession Number
20183347929
Author
Varshney, J. P.
Title
Electrocardiographic studies in Holstein crossbred calves.
Source
Intas Polivet; 2018. 19(1):16-18. 9 ref.
Publisher
Intas Pharmaceuticals Ltd
Country of Publication
India
Abstract
The study was undertaken to evaluate the base line data to compare changes in electrocardiographic indices for detecting arrhythmias and conduction abnormalities in ruminants. The evaluation was undertaken in Holstein crossbred calves employing base-apex lead system which revealed mean values of heart rate, 'P' amplitude, 'P' durations' P-R' interval, 'QRS' amplitude, 'QRS' duration, 'S-T' segments, 'T' amplitude, 'T' duration and 'Q-T' interval as 85.2+or-4.23 bpm, 0.234+or-0.031 mV, 0.05+or-0.0024 sec, 0.125+or-0.025 sec, 0.884+or-0.06 mV, 0.054+or-0.0001 sec, 0.182+or-0.038 sec, 0.318+or-0.088 mV, 0.069+or-0.0037 sec and 0.308+or-0.0017 sec respectively.
Language
English.
Year of Publication
2018

Citation 231.
Accession Number
20183344335
Author
Andrade, T. O. de; Carvalho, C. F. P. de M.; Lima, F. G. C.; Veiga, C. S. C. da;
Title
Primary cardiac hemangiosarcoma in a dog - case report. [Portuguese]
Source
Clinica Veterinaria; 2018. 23(134):58-66. 40 ref.
Publisher
Editora Guara

Country of Publication
Brazil
Abstract
Cardiac tumors are uncommon in dogs. Their etiology is unknown, and it is believed that genetic factors may have an influence on the appearance of this type of neoplasia. At the initial stage, they do not cause relevant clinical signs, but as the primary tumor progresses, cardiac function is affected. These tumors may be confused with congestive heart failure. Hemangiosarcoma is one of the most frequent cardiac neoplasms and may have several locations, but it usually affects the right atrium. Cardiac neoplasms do not usually metastasize, but have poor prognosis for patients. Therapeutic alternatives, when possible, include surgery and chemotherapy. The objective of the present study was to report a case of primary cardiac hemangiosarcoma in an eight-year-old Dachshund bitch, presenting the clinical alterations found, the complementary exams performed and the final diagnostic confirmation through necropsy and histopathological examination.
Language
Portuguese.
Year of Publication
2018

Citation 232.
Accession Number
20183344328
Author
Forlani, G. S.; Bastos, R. F.; Sousa, P. R. de; Nobre, M. de O.;
Title
Hypertrophic cardiomyopathy in a young cat: a silent challenge - case report. [Portuguese]
Source
Clinica Veterinaria; 2018. 23(132):76-84. 29 ref.
Publisher
Editora Guara
Country of Publication
Brazil
Abstract
Hypertrophic cardiomyopathy (HCM) is the most prevalent disease of the cardiac muscle in cats. The condition can be primary or secondary to other diseases, such as hyperthyroidism, systemic arterial hypertension, or subaortic stenosis. HCM is characterized by thickening of the free wall of the left ventricle and/or the interventricular septum. Clinical signs are variable and when present include dyspnea, murmur and arrhythmias, as well as non-specific signs. The aim of this case report is to alert clinicians to the importance of investigating changes in physical parameters such as systemic blood pressure and heart rate and to consider HCM as a differential diagnosis in young cats.
Language
Portuguese.
Year of Publication
2018

Citation 233.
Accession Number
20183344327
Author
Carvalho, E. R.; Sousa, M. G.; Augusto, C. C.; Rodrigues, B. C.; Fenerich, M.; Terrabuio, V. M. T. de C.; Camacho, A. A.;
Title
Pulmonary arterial hypertension in a cat with restrictive cardiomyopathy - a case report. [Portuguese]
Source

Clinica Veterinaria; 2018. 23(132):66-74. 20 ref.
Publisher
Editora Guara
Country of Publication
Brazil
Abstract
Feline pulmonary arterial hypertension (PAH) is an unusual and minimally reported condition that can lead to right ventricular insufficiency and death. In cats, PAH was reported in cases in which it was secondary to heartworm disease, pulmonary thromboembolism and patent ductus arteriosus. This is a case report of an elderly domestic cat with medical history of dyspnea, fatigue and pleural effusion, which was diagnosed with restrictive cardiomyopathy and PAH upon echocardiography. The progression of restrictive cardiomyopathy can be silent due to the owners' inability to recognize clinical signs of heart failure. In spite of the few reports in cats, it is reasonable that PAH be part of differential diagnosis on patients presenting signs of cardiopulmonary decompensation.
Language
Portuguese.
Year of Publication
2018

Citation 235.
Accession Number
20183344173
Author
Gehlen, H.; Bildheim, L. M.;
Title
Speckle-tracking analysis of myocardial deformation in correlation to age in healthy horses.
Source
Journal of Veterinary Science; 2018. 19(5):676-682. 35 ref.
Publisher
Korean Society of Veterinary Science
Country of Publication
Korea Republic
Abstract
An effect of aging on cardiac morphology and function has been shown in humans. In horses, cardiac wall motion analysis using two-dimensional speckle tracking (2D-ST) has not yet been reported. Our study included 57 horses of different warmblood breeds between 3 and 30 years old. Age had a significant influence on left ventricular free wall (LVFW) systolic strain rate ($p<=0.05$) and early diastolic relaxation ($p<=0.01$). In the interventricular septum (IVS), systolic ($p<=0.01$) and late diastolic ($p<=0.05$) contraction velocities also increased with age. In our study, 2D-ST revealed important information on myocardial function, which was most evident in the LVFW, where measurements were highly reproducible. Aging seems to be associated with structural changes within the myocardium and with decreasing contraction capacity in old animals. These physiological, age-related processes should be considered when performing cardiac wall motion analysis of the 2D-ST results for the LVFW and IVS in horses.
Language
English.
Year of Publication
2018

Citation 241.
Accession Number
20183326333
Author
Koskova, B.; Agudelo, C. F.; Schanilec, P.; Filipejova, Z.; Crha, M.;

Title
Description of mitral valve morphology by using M-mode echocardiography in several heart diseases. [Czech]
Source
Veterinarstvi; 2018. 68(9):635-639. 17 ref.
Publisher
Profi Press, s.r.o.
Country of Publication
Czech Republic
Abstract
This paper is dedicated to echocardiography, mainly to the M-mode of the mitral valve. M-mode plays an important role in echocardiography, although some authors consider it as an obsolete diagnostic method today. The paper is intended to focus on the mitral valve using M-mode and describes the changes in morphology in various heart diseases.
Language
Czech.
Year of Publication
2018

Citation 242.
Accession Number
20183326332
Author
Fiedler, M.
Title
Degenerative mitral valve disease: diagnosis and therapy at an early stage. [Czech]
Source
Veterinarstvi; 2018. 68(9):628-634. 20 ref.
Publisher
Profi Press, s.r.o.
Country of Publication
Czech Republic
Abstract
The main purpose of this article is to outline the process of early diagnosis of patients with degenerative mitral valve disease. The impact of new studies on therapy and diagnostics is absolutely crucial and it is necessary to change the access to asymptomatic patients. Proper diagnosis and staging of the patient has a major effect on prolonging the asymptomatic phase of the disease and thus also delaying congestive heart failure.
Language
Czech.
Year of Publication
2018

Citation 248.
Accession Number
20183343335
Author
Hwang TaeSung; Park JungHyun; Jung DonGin; Lee HeeChun;
Title
Hypertrophic obstructive cardiomyopathy in a Yorkshire Terrier.
Source
Korean Journal of Veterinary Research; 2018. 58(3):159-162. 15 ref.
Publisher

Korean Society of Veterinary Science
Country of Publication
Korea Republic
Abstract
An 11-year-old, castrated male dog presented with a 3-month history of cough and depression. Auscultation revealed systolic murmur and thoracic radiographs showing enlargement of both the atrium and left ventricle. Echocardiography showed thickened mitral valve and moderate-to-severe left atrial enlargement. Additionally, M-mode echocardiography showed symmetric left ventricular wall thickening and systolic anterior motion of the mitral valve, while Doppler imaging revealed high velocity turbulent flow through the left ventricular outflow tract. Based on echocardiography, this case was diagnosed with hypertrophic obstructive cardiomyopathy. After 5 months, the dog was clinically static in radiography and echocardiography.
Language
English.
Year of Publication
2018

Citation 251.
Accession Number
20183343229
Author
Casa, G.; Oliveira, M. D.; Regianini, C. R.; Lovatel, M.; Cancelier, C. D. L.; Xavier, M. G. N.; Volpato, J.; Saito, M. E.; Yonezawa, L. A.;
Title
Electrocardiographic features of Crioulo mares in different pregnancy stages. [Portuguese]
Source
Arquivo Brasileiro de Medicina Veterinaria e Zootecnia; 2018. 70(5):1641-1644. 12 ref.
Publisher
FEPMVZ - Editora
Country of Publication
Brazil
Abstract
Pregnancy can cause several physiologic changes in mares, including modifications in cardiac output and heart positioning. Therefore, these changes could influence electrocardiographic parameters in various stages of pregnancy. This study aimed to evaluate the electrocardiogram of Crioulo mares in different pregnancy stages. Nine non pregnant mares (G0), 11 mares at three months (G3), 11 mares at six months (G6) and 11 mares at 10 months of pregnancy (G10) were submitted to electrocardiographic evaluation. There was higher (P=0,002) heart rate of G10 (60.45+or-12.16 bpm) when compared to other groups (G0=45.67+or-10.75 bpm; G3=44.91+or-7.91 bpm; G6=46.91+or-9.12 bpm), probably because of an increase in cardiac output to uterine perfusion at the end of pregnancy. Normal sinus rhythm was predominant in most of mares of groups G0, G3 and G6, and sinus tachycardia in most of G10 mares. In conclusion, changes in hemodynamics and in cardiac position can influence on the electrocardiogram of pregnant Crioulo mares, but do not cause relevant rhythm or conduction disturbs.
Language
Portuguese.
Year of Publication
2018

Citation 254.
Accession Number
20183343191
Author
Coelho, M. R.; Muzzi, R. A. L.; Abreu, C. B.; Schulien, T.; Muzzi, L. A. L.; Oliveira, L. E. D.; Cherem, M.;

Title
Assessment of left atrial function in dogs with myxomatous mitral valve disease by biplane Simpson's method.
Source
Arquivo Brasileiro de Medicina Veterinaria e Zootecnia; 2018. 70(5):1349-1354. many ref.
Publisher
FEPMVZ - Editora
Country of Publication
Brazil
Abstract
The relationship between the diameter of the left atrium (LA) and aorta (Ao) is considered as a prognostic factor in chronic mitral valve disease. As the left atrium is a three-dimensional structure, methods based on measurement of the chamber volume can be more accurate than linear methods. The aim of this study was to assess the feasibility of measuring LA volume with 2D echocardiography using the biplane modified Simpson (SIMP) method in 33 dogs with various classes of myxomatous mitral valve disease (MMVD), as well as to present values of LA function using the atrial diastolic and systolic volume indices (ADVI and ASVI), cardiac index (ACI) and atrial ejection fraction (AEF). We observed agreement among the LA/Ao ratio and the atrial volume indices (ADVI and ASVI) and the ACI, suggesting that the values of the variables increase as the LA/Ao ratio increases due to atrial remodeling that accompanies MMVD progression. The data demonstrated a good assessment of atrial function, allowing a better understanding of LA's role in the pathophysiology of MMVD.
Language
English.
Year of Publication
2018

Citation 257.
Accession Number
20183343061
Author
Aksoy, G.; Ozudogru, Z.; Ozdemir, D.;
Title
A macroanatomic investigation of the coronary arteries and myocardial bridges in Awassi sheep.
Source
Eurasian Journal of Veterinary Sciences; 2018. 34(3):171-177. many ref.
Publisher
Selcuk Universitesi Veteriner Fakultesi
Country of Publication
Turkey
Abstract
Aim: The purpose of the study was to reveal the course of coronary arteries and localization of myocardial bridges. Materials and Methods: It was used 10 mature Awassi sheep of both sex. The color latex injection method was applied to the materials. Results: The subepicardial adipose tissue was found to extend up to approximately the middle of the paraconal interventricular and subsinuosal interventricular grooves. Coronary arteries had partially an intramyocardial course. A third coronary artery sprang almost from the aorta on the right side of right coronary artery in 4 of the hearts. The left proximal atrial branch directly originated from the left coronary artery in 9 hearts. The paraconal interventricular branch coursed up to the middle of the subsinuosal interventricular groove in 2 hearts. The left distal ventricular branch was not formed in 1 heart. The myocardial bridges were observed at the beginning of the paraconal interventricular groove and on, both the paraconal interventricular and subsinuosal interventricular grooves in 8 and 2 hearts, respectively. In 1 heart, the myocardial bridge was also seen on the coronary groove. There was no myocardial bridge on the right coronary artery and its branches. Conclusion: Some researchers have suggested the human heart's resemblance to the sheep heart and sheep heart can be used as a model in

human cardiovascular surgeon. Therefore, the presented study can give an idea of both the identification of the heart in the Awassi sheep and whether sheep heart can be used as a model in human medicine.
Language
English.
Year of Publication
2018

Citation 262.
Accession Number
20183340928
Author
Drake, J.; Wiseman, S.;
Title
Increasing incidence of dirofilaria immitis in dogs in USA with focus on the southeast region 2013-2016.
Source
Parasites and Vectors; 2018. 11(39):(17 January 2018). 20 ref.
Publisher
BioMed Central Ltd
Country of Publication
UK
Abstract
Background: A recent American Heartworm Society (AHS) survey on the incidence of adult heartworm infections in dogs in the United States of America showed a 21.7% increase in the average cases per veterinary clinic from 2013 to 2016. The analysis reported here was performed to see if heartworm testing results available via the Companion Animal Parasite Council (CAPC) aligned with the AHS survey and whether changes in heartworm preventive dispensing accounts for the increased incidence. The resistance of Dirofilaria immitis to macrocyclic lactones (MLs) has been previously reported. Methods: An analysis of 7-9 million heartworm antigen tests reported annually to the Companion Animal Parasite Council (CAPC) from 2013 to 2016 was conducted and compared to the 2016 AHS survey. A state-by-state analysis across the southeastern USA was also performed. National heartworm preventive dispensing data were obtained from Vetstreet LLC and analyzed. All oral, topical and injectable heartworm preventives were included in this analysis, with injectable moxidectin counting as six doses. Results: Positive antigen tests increased by 15.28% from 2013 to 2016, similar to the 21.7% increase reported by the AHS survey. Incidence in the southeastern USA increased by 17.9% while the rest of USA incidence increased by 11.4%. State-by-state analysis across the southeastern USA revealed an increased positive test frequency greater than 10% in 9 of 12 states evaluated. During this time, the overall proportion of dogs receiving heartworm prophylaxis remained relatively unchanged. Approximately 2/3 of the dogs in the USA received no heartworm prevention each year. Conclusion: These CAPC data show the rate of positive heartworm tests increasing significantly ($P<0.0001$) in the USA from 2013 to 2016, with a higher rate of increase in the southeastern USA than nationally. Only 1/3 of dogs in the USA were dispensed one or more doses of heartworm prevention annually by veterinarians, averaging 8.6 monthly doses/year. Veterinarians and pet owners should work together to follow CAPC and AHS guidelines to protect dogs from infection with D. immitis. Lack of preventive use and the emergence of heartworm resistance to MLs could both be impacting the increased rate of positive heartworm tests in dogs.
Language
English.
Year of Publication
2018

Citation 270.
Accession Number
20183337554
Author

Kheirandish, R.; Tajik, J.; Ghanbarpour, R.; Azizi, S.; Davoodian, Z.;
Title
Peritonitis, pericarditis and meningitis due to Salmonella enterica in a Kermani ewe. [Persian]
Source
Journal of Veterinary Research; 2018. 73(1):Pe129-Pe133. 16 ref.
Publisher
Faculty of Veterinary Medicine, University of Tehran
Country of Publication
Iran
Abstract
A Kermani ewe was examined because of inappetance and illthriftness. Clinical examination showed normal heart rate, tachypnea, muffled heart sounds, stiff neck, dullness, dehydration, rumen atony and paled mucosal membrane. Postmortem examination revealed pericarditis, peritonitis, intestinal adhesion, mesenteric abscesses as well as mild opacity of meninges. Salmonella enterica was isolated in bacterial culture from affected tissues. Although there are some previous reports regarding the association between salmonella infection and peritonitis, pericarditis and meningitis in domestic animals, to the best of our knowledge, there is no previous report about the concurrent peritonitis, pericarditis and meningitis due to salmonella in ruminant.
Language
Persian.
Year of Publication
2018

Citation 271.
Accession Number
20183337552
Author
Khaki, Z.; Mohebi, P.; Shirani, D.; Jamshidi, Sh.;
Title
A survey of the effects of acquired heart diseases on thyroid hormones, serum biochemical and hematological indices in dogs. [Persian]
Source
Journal of Veterinary Research; 2018. 73(1):Pe111-Pe118. 22 ref.
Publisher
Faculty of Veterinary Medicine, University of Tehran
Country of Publication
Iran
Abstract
BACKGROUND: A common problem encountered in veterinary medicine is the euthyroid sick syndrome (ESS), which refers to a state where nonthyroidal illness (such as heart diseases) causes suppression of serum concentrations of thyroid hormone without true pathology of the thyroid gland. Chronic valve disease (endocardiosis) is the most common cause of heart failure in dogs. About a third of small-breed dogs older than 10 years of age are affected by heart diseases, especially endocardiosis. OBJECTIVES: The aims of this study were to determine the effects of some acquired heart diseases (endocardiosis, dilated cardiomyopathy and congestive heart failure) on thyroid hormones, some serum biochemical and hematological indices in small breed dogs. METHODS: A total of 50 small breed dogs were selected. 25 dogs were healthy and 15.7 and 3 dogs had endocardiosis, congestive heart failure and dilated cardiomyopathy respectively which was confirmed by historical, physical examination, radiographic, and echocardiographic findings. Thyroid hormones (T4, fT4 and TSH) were determined by using commercial canine Elisa kits. Serum biochemical analysis was carried out to determine the levels of creatine phosphokinase, aspartate aminotransferase, troponin I, blood urea nitrogen, creatinine, total protein, albumin, globulin, triglycerides, and cholesterol. Also, Hematological indices (RBC, WBC, PCV, Hb and differential leukocyte count) were measured. RESULTS: One way ANOVA test showed that there were no significant changes in the serum levels of T4 and fT4 in patients versus control group ($p>0.05$), only TSH concentration in dilated

cardiomyopathy dogs compared to other groups was significant (p<0.05). Observations showed the creatine phosphokinase activity was significantly elevated in endocardiosis and congestive heart failure dogs in comparison with dilated cardiomyopathy and control groups. The serum concentration of protein was significantly decreased in congestive heart failure dogs compared with endocardiosis and control dogs. Also, in comparison with the control group, serum level of triglycerides was diminished in congestive heart failure dogs and blood urea nitrogen concentration was significantly increased in endocardiosis dogs compared with control. There were no significant differences in other biochemical and hematological parameters. CONCLUSIONS: In current study, euthyroid sick syndrome or hypothyroidism was not seen in small-breed dogs suffering from heart disease. However, in dogs with endocardiosis, increase of serum creatine phosphokinase activity could be a symbol of complexity of heart disease.

Language
Persian.
Year of Publication
2018

Citation 273.
Accession Number
20183337481
Author
Watson, A.; Sookram, V.; Driscoll, M.; Morris, M.; Suepaul, R.; Lopez-Alvarez, J.; Corradini, I.;
Title
Mitral kissing vegetation and acquired aortic valve stenosis secondary to infectious endocarditis in a goat with suppurative mastitis.
Source
Veterinary Sciences; 2018. 5(3):64. 15 ref.
Publisher
MDPI AG
Country of Publication
Switzerland
Abstract
A six-year-old female goat was presented to the veterinary teaching hospital of the University of the West Indies with a history of progressive hind-limb paresis lasting two weeks. The doe developed a grade 6/6 holosystolic murmur during hospitalisation. Echocardiography revealed vegetative growths attached to cusps of the mitral and aortic valves. There was an accelerated aortic flow at 2.9 m/s and aortic insufficiency. The aortic vegetation was prolapsing into the left ventricle during diastole, causing it to contact the septal mitral valve leaflet. A diagnosis of mitral and aortic vegetative endocarditis, with a mitral kissing vegetation and mild aortic stenosis, was reached. The patient was placed on broad-spectrum antimicrobials. A short-term follow-up showed no resolution of clinical signs, and the animal eventually died. Post-mortem examination showed severe vegetative, fibrino-necrotic, aortic and mitral valve lesions. The goat also had a severe fibrino-suppurative mastitis. Histopathology confirmed the lesions to be vegetative endocarditis.
Language
English.
Year of Publication
2018

Citation 276.
Accession Number
20183337432
Author
Begum, M. M.; Bhuvaneshwari, V.;
Title
Assessment of vertebral heart score using thoracic radiographs in ten different dog breeds.

Source
Indian Veterinary Journal; 2018. 95(7):76-78. 5 ref.
Publisher
Indian Veterinary Association
Country of Publication
India
Abstract
The study was carried out in 180 healthy dogs, to assess the breed specific normal vertebral heart score (VHS) using thoracic radiographs. Dachshund, Doberman pinscher, German shepherd, Golden retriever, Labrador retriever, Mongrel, Pug, Rottweiler, Shih Tzu and Spitz were the breeds included in this study. According to their breeds, dogs were divided into ten groups and each group included eighteen dogs. Based on age, each group was subdivided into three with six dogs in each category and each sub division had equal number of either sex. The long axis of the heart was measured from the ventral border of the left main stem bronchus to the cardiac apex and short axis was measured at the widest point of the cardiac image on a line perpendicular to the long axis at the level of the caudal vena cava. The value of both long and shot axis were compared with the vertebral column starting at the cranial boarder of T4. The VHS value was estimated by the addition of vertebral lengths obtained with the help of both long and short axis. Breed, age and sex specific VHS values were calculated and analysed statistically.
Language
English.
Year of Publication
2018

Citation 285.
Accession Number
20183335639
Author
Slocombe, R. F.
Title
Sudden death of a crossbred calf associated with a myocardial adenomatoid tumour.
Source
Australian Veterinary Journal; 2018. 96(6):209-211. 2 ref.
Publisher
Wiley
Country of Publication
Australia
Abstract
The only lesion found in a crossbred calf that died suddenly was a rare tumour in the myocardium of the left ventricle. The mass appeared similar to tumours discovered incidentally in the hearts of abattoir specimens in Italy, described as adenomatoid tumours. These are bimorphic tumours presumed to have a mesothelial origin. Although in a published study from Italy these tumours were considered incidental and clinically unimportant, I suggest that in this case the mass may have interfered with cardiac conduction, causing sudden death of the calf.
Language
English.
Year of Publication
2018

Citation 311.
Accession Number
20183327198
Author
Camdeborde, P.; Corre, S. le; Guio, C. de; Thomas-Cancian, A.; Segard-Weisse, E.; Cadore, J. L.;

Title
Achievement of a simplified echocardiography in the horse. [French]
Source
Pratique Veterinaire Equine; 2018. 50(199):58-62. 6 ref.
Publisher
Newsmed
Country of Publication
France
Abstract
In this article the author discussed the use of echocardiogarphy in screening the heart conditions of horses as well as racehorses and guidelines in evaluating results of ECG and assessing also the results prior to activities as well as competition of sport horses.
Language
French.
Year of Publication
2018

Citation 314.
Accession Number
20183299216
Author
Linney, C.
Title
Dilated cardiomyopathy in dogs: causes and treatment.
Source
Veterinary Times; 2018. 48(36):6...11. 21 ref.
Publisher
Veterinary Business Development Ltd
Country of Publication
UK
Language
English.
Year of Publication
2018
