Terriers 9.0%, West Highland White Terriers 7.0% and Yorkshire Terriers 13.0% ($P < 0.001$). Brachycephalic dogs showed higher prevalence than non-brachycephalic dogs for certain URT disorders: brachycephalic obstructive airway syndrome (BOAS) ($P < 0.001$), laryngeal disorders ($P = 0.033$), nares/nasal cavity disorders ($P < 0.001$) and palate disorders ($P < 0.001$). After accounting for the effects of age, bodyweight,

sex, neutering and insurance, brachycephalic dogs had 3.5 times (95% CI: 2.4–5.0, $P < 0.001$) the odds of URT disorders compared with the non-brachycephalic terrier dogs.

In summary, this study reports that URT disorders are a relatively common presentation in dogs and that, relative to common terrier breeds, Bulldogs, French Bulldogs and Pugs are short-lived and predisposed to URT disorders.

Cardiac Troponin I as a prognostic biomarker in dogs with primary cardiac disease

Inigo Sanz, Paul Wotton, Tim DH Parkin, Anne T French

Glasgow University, Glasgow, UK

BACKGROUND

Cardiac troponins are the most sensitive and specific biochemical markers of myocardial injury. Although elevated troponin concentrations indicate cardiac cell necrosis, they do not define the cause of the injury. Cardiac troponin I (cTnI) has been shown to be elevated in dogs with congenital and acquired cardiac diseases but also in several systemic conditions, such as blunt chest trauma, gastric dilatation-volvulus, pyometra, anaemia, renal failure, babesiosis, ehrlichiosis, systemic inflammation and endurance exercise. This lack of specificity reduces the value of the assay as a diagnostic tool. Nevertheless, troponins have been shown to have some prognostic value in humans, dogs and cats with acute and chronic cardiac diseases.

HYPOTHESIS

Troponin can be used to predict the outcome of dogs with primary cardiac disease. Animals with higher cTnI concentrations experience shorter survival times.

METHODS

Case records from clinical cases at a small animal referral hospital in which serum Troponin I was measured over a three year period (2009–2012) were reviewed. Cases with cardiac disease were identified and those with anaemia, azotaemia, hypertension, treatment with anthracyclines or concurrent diseases were excluded. 94 dogs with primary cardiac disease were finally included in the study. Information on survival was obtained from the case records or by telephone contact with the owner or referring veterinary surgeon. Kaplan Meier curves and Mann-Whitney tests were used to assess differences in survival and serum cTnI concentrations between groups of dogs, respectively.

RESULTS

Eighty percent of the dogs with primary cardiac disease had cTnI concentrations above the reference range ($>0.15\text{ng/dl}$). This group of animals experienced significantly ($P=0.007$) shorter median survival times (861 days) than dogs with cTnI within the normal limit (1321 days). Furthermore, the median cTnI concentration was significantly ($P=0.002$) higher in non-survivors (0.515 ng/dl) than survivors (0.245 ng/dl). Higher cTnI concentrations were significantly ($P=0.012$) associated with the presence of congestive heart failure.

CONCLUSIONS AND CLINICAL RELEVANCE

Raised serum cTnI concentrations predict mortality in dogs with primary cardiac disease. These results support previous studies, highlighting the prognostic potential of cTnI in dogs with cardiac disease.

Clinical utility and user experience of a smart phone-associated, single lead ECG recording device (AliveCor®)

Kit Sturgess

Vet Freedom Ltd., Brockenhurst, UK

A single lead ECG recording device (AliveCor®) that is available for use with smart mobile phones has recently become available. The ECG is recorded by 2 electrodes embedded in the phone cover with the signal being sent to either human or veterinary App-based software. The device records a single lead

ECG trace that is displayed on-screen speed (12.5, 25 and 50 mm/sec) and amplitude (5, 10, 20 mm/mV) can be varied and the trace inverted; filtering can be automatic, 50 or 60 Hz. Clinical information can be associated with each trace that can then be printed or sent by email as a PDF for storage and association with a patient's clinical notes.

The aim of the study was to try and obtain a diagnostic quality 30 second ECG in the consulting room from dogs of different breeds and coat lengths without shaving.

The study's objective was to ascertain whether the monitor could provide a convenient, cost effective, alternative for rapid assessment of canine ECGs.

49 dogs were included in the study. ECG's were obtained either by placing the device on the left chest wall over the heart or, for smaller dogs where the electrode contact was poor, by placing the front stopper pads on the two recording

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electrodes. Coupling gel was placed on the recording electrodes and used in all cases; in long or heavy coated dogs, the hair coat was sprayed with alcohol prior to applying the device. A complete record was defined as a recording of ≥ 29 seconds and a partial recording of ≥ 10 seconds. In addition the rate and rhythm was compared to auscultatory findings obtained immediately prior to the ECG. Informed owner consent was obtained prior to each procedure.

The procedure was well tolerated by all dogs using the chest site but was generally resisted when using the front

paws. A usable recording was obtained from 42/49 (86%) of patients being complete in 27 (55%) and partial in 15 (31%) (mean 16.5 seconds; range 11–27 seconds). Whilst morphology of the QRS complexes was reasonable to good, in many cases it was difficult to clearly define P waves.

This AliveCor® heart monitor provides a rapid, easy in-clinic method of assessing heart rhythm and QRS morphology without requiring patient clipping in the majority of dogs examined. There was a good correlation with auscultatory findings.