Oral presentations

($p=0.01$). Survival times were significantly lower in ES-HCM cats ($p<0.001$) with a median survival time of 49 days (95% CI 20–78) compared to 413 (95% CI 112–713) for HCM cats ($p<0.001$). The major cause of death in ES-HCM cats was CHF (21/32, 65.6%), with 43.8% (14/32) of HCM cats dying of non-cardiac causes.

STATEMENT (CONCLUSIONS)

Cats with ES-HCM have a poor prognosis compared to cats with HCM in general. More work is needed to identify risk factors for progression from HCM to ES-HCM.

Evaluation of a one-hour training course in focused echocardiography for general veterinary practitioners to aid detection of cardiac emergencies

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OBJECTIVES

To assess whether one-hour training in focused echocardiography could improve general veterinary practitioners' (GVPs) ability to obtain images considered essential components of a focused echocardiogram and subjectively interpret pericardial effusion (PE), left atrial enlargement (LA) and poor systolic function.

METHODS

Forty GVPs completed a pre-training questionnaire on their confidence and use of echocardiography. This was followed by a pre-assessment of practical skills on obtaining a standing right parasternal long axis 4 chamber (RPSLA 4C), right parasternal short axis left ventricle (RPSSA LV) and RPSSA at the heart base; pre-training tests on cardiac anatomy and video image interpretation; a 1 hour lecture and practical training session; post-training assessment.

RESULTS

Anatomy and video image interpretation score significantly improved after training ($p<0.0001$). Post-training, all vets obtained a diagnostic RPSSA LV and RPSLA 4C. 90% obtained a diagnostic RPSSA view of the heart base.

Post-training, GVPs correctly subjectively identified a large volume pericardial effusion (95%), severely reduced systolic function (fractional shortening $<10\%$) (97.5%) and LA enlargement (LA:Ao $>2:1$) (95%).

STATEMENT (CONCLUSIONS)

A one hour course in focused echocardiography improved the ability of GVPs to identify cardiac anatomy on echocardiography correctly, detect LA enlargement, reduced systolic function and PE, obtain the views required to make these assessments, and improved their confidence in both image interpretation and practical acquisition.

This skill could provide a complementary diagnostic tool and aid triage of patients in an emergency setting and aid identification of patients with cardiac disease who might benefit from cardiac medications and/or referral for echocardiography.

Investigating the endothelial glycocalyx in health and disease in dogs

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OBJECTIVES

The objectives of this study were; firstly to visualise the endothelial glycocalyx using Alcian Blue perfusion for the first time in dogs and secondly to evaluate glycocalyx damage in dogs with mitral valve disease (MVD) and hypercoagulability compared to control dogs.

METHODS

Uterine and testicular artery samples were perfused with 0.1% Alcian Blue/2.5% glutaraldehyde/0.1 M sodium

cacodylate and fixed with 2.5% glutaraldehyde/0.1 M sodium cacodylate prior to visualisation using transmission electron microscopy. Glycocalyx damage was evaluated in residual blood samples from dogs with MVD (diagnosed on echocardiography by a board-certified cardiologist), hypercoagulability ($G > 8$ dynes/sec on thromboelastography) and healthy control dogs undergoing blood donation. Glycocalyx damage was quantified by measuring a glycocalyx component, hyaluronan, using a commercially available ELISA validated for dogs. Hyaluronan concentrations were compared across groups using the Kruskal-Wallis test. Post-hoc analysis between groups was performed using Mann-Whitney U tests with Bonferroni corrections.

RESULTS

Glycocalyx was successfully visualised in testicular artery from 1/5 dogs (median[range] glycocalyx depth

68.2[32.1–122.9]nm) and uterine artery from 1/1 dogs (47.6[26.1–129.4]nm). The median(range) hyaluronan concentration in dogs with MVD ($n=27$), hypercoagulability ($n=27$) and controls ($n=54$) was 89.2(31.1–925.6), 126.4(16.9–844.4) and 51.5(8.7–152.0)ng/ul respectively. There was a significant difference across groups ($P < 0.001$), between control and MVD dogs ($P < 0.001$), control and hypercoagulable dogs ($P < 0.001$) but not MVD and hypercoagulable dogs ($P = 0.186$).

STATEMENT (CONCLUSIONS)

Definitive endothelial glycocalyx visualisation will facilitate its future study *ex vivo*. Significantly increased hyaluronan concentrations in dogs with MVD and hypercoagulability support the presence of glycocalyx damage in these diseases and its diagnostic and therapeutic potential.