

Evaluation of Point-of-Care Ultrasound Performed by Non-cardiologists for Diagnosis of Degenerative Mitral Valve Disease in Dogs Presented to the Cardiology Service

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Cardiac point-of-care ultrasound (POCUS) is a rapid screening method for gross cardiac pathology. Cardiac POCUS performed by non-cardiologists is used for diagnosis and management of human emergency patients or when a cardiologist is not on site. Degenerative mitral valve disease (DMVD) is the most common acquired canine heart disease. Being able to reliably diagnose, stage and identify complicating factors of DMVD would be of great benefit to general practitioners. This prospective study evaluated the ability of clinicians trained in POCUS to correctly diagnose and stage DMVD, and to identify post-capillary pulmonary hypertension (PH) in dogs presented to the cardiology service.

Dogs presented between March 2019 and December 2020 for evaluation or follow-up of heart disease were eligible for inclusion in this descriptive study. Two clinicians received an 8-hour course in thoracic and cardiovascular POCUS. Clinicians were informed about the dogs' presenting complaints but were blinded to the underlying heart disease, treatment and results of echocardiography and thoracic radiographs. They performed physical examination, thoracic and cardiac POCUS. More than 3 B-lines in a view was considered abnormal. Left atrial (LA), left ventricular (LV), and right heart (RH) size were subjectively scored as small, normal or enlarged. Caudal vena cava was subjectively scored as flat, normal or fat. Clinicians classified dogs as presumptive DMVD (Group 1), no cardiac disease (Group 2) or other cardiac disease (Group 3). For dogs with presumptive DMVD, they indicated ACVIM stage and screened for presence or absence of associated PH based on RH size.

Results were compared with the final cardiological diagnosis based on history, clinical examination, full-Doppler echocardiography and thoracic radiographs.

Eighty-five dogs were enrolled, 56 with DMVD, 8 without cardiac disease and 21 with other cardiac disease. Clinicians classified 54 dogs into group 1, 10 into group 2 and 21 into group 3. Clinicians correctly identified DMVD in 96.4% of the cases (54/56). Dogs without cardiac disease were correctly identified in 75% of the cases (6/8). No dog without cardiac disease or with other cardiac disease was misclassified into group 1. Staging of DMVD was correct in 79.6% (43/54) dogs, overscored in 6 and underscored in 5. PH was not identified by clinicians in any dog from group 1, although mild to severe PH was present in 11.

Clinicians can accurately diagnose DMVD based on history, physical examination and POCUS, and assess stage with moderate accuracy, yet fail to detect pulmonary hypertension in DMVD patients.

Disclosures

No disclosures to report.

SPEAKER INFORMATION

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