

PATIENT

Kibbles Williamson

SPECIES

Canine

BREED

Beagle

SEX

Female Spayed

AGE

12 years

WEIGHT

20.8lbs

INTERPRETED BY

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DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Andi Parkinson, RDMS

HOSPITAL NAME

Northwind Animal
Hospital

REFERRING VET

Dr. Wilson

INVOICE

22267

DATE

12/3/21

PRESENTING CLINICAL SIGNS

History: Patient presented on 11/26/2021 for coughing non-stop for 2 months. PE revealed a 5/6 holosystolic heart murmur and a wet cough most pronounced with exertion and excitement.
-Current medications: Furosemide 20mg: 1 tab PO BID, Tussigon 1/2-1 tab PO QID-BID to suppress cough, Vetmedin 5.0 mg - 1/2 tab PO BID, Enalapril 5mg: 1 tab PO SID.
-Sedation used: Not required to complete full diagnostic ultrasound.
-STAT: REQUESTED.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental information only.
Severe cardiomegaly with evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with marked prolapse into the left atrial lumen. A ruptured chordae tendineae is visualized with a flail leaflet (see below). Marked eccentric mitral regurgitation with marked left atrial dilation. Normal MR velocity. Moderate LV dilation with hyperdynamic myocardial function. The tricuspid valve appears thickened with septal prolapse and moderate TR. Velocity consistent with moderate pulmonary hypertension. Mild right heart enlargement. The pulmonic and aortic valves are normal in morphology and mobility. Normal aortic and pulmonic outflow velocities with laminar flow. No AI/PI. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.3	4.0	NM	2.6	45	76	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	143	0.9	0.84	9.4	4.3	5.2	2.9
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing marked mitral and moderate tricuspid regurgitation. Marked left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. A ruptured chord leading to a flail leaflet is visualized which dramatically raises this risk. Moderate pulmonary hypertension is noted, which is likely secondary to chronic LA pressure elevation and a reported cough. No additional issues are identified.

In light of the clinical signs, chest radiograph findings and severity of disease on echocardiogram, congestive heart failure is certainly present and more aggressive cardiac medications are warranted lifelong as below. If the cough persists despite an increase in diuretic therapy, Hydrocodone should certainly be considered +/- a course of broad-spectrum antibiotic. Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. The average survival time of canine patients with active pulmonary edema is 8-9 months on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for acute progression of the cough, labored breathing, exercise intolerance or collapse episodes in the future.

Avoid anesthesia, steroids and/or fluid therapy going forward.

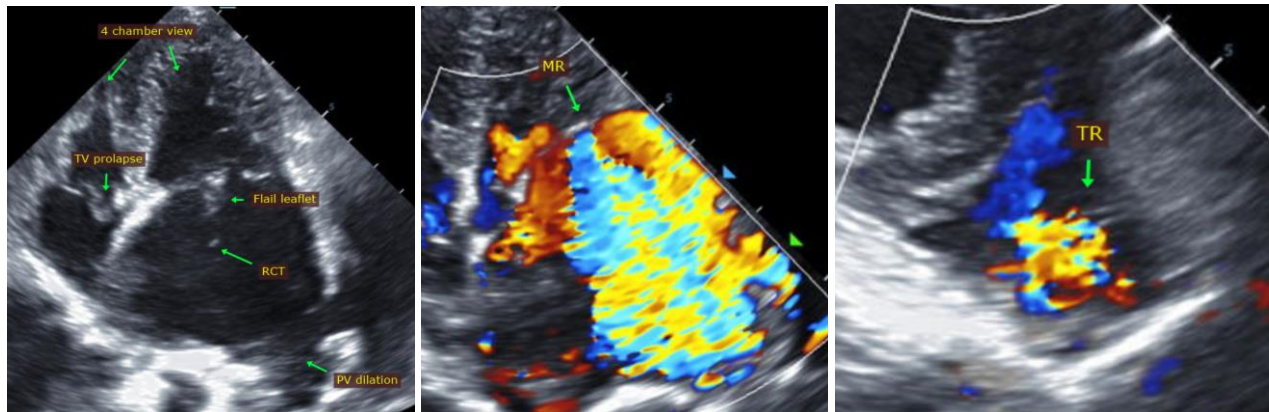
PLAN

Administer Pimobendan as prescribed. Increase Furosemide to 20mg PO q8h. Institute spironolactone 1-2mg/kg PO q12h. Continue Benazepril as prescribed.

Monitor SRRs at home. Monitor renal values and BP in 10-14 days, then every 3-4 months while on diuretics. If doing well and BP >130mmHg, increase ACEI to q12h dosing. Consider hydrocodone if needed for QOL +/- a course of broad-spectrum antibiotic.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of associated clinical signs occurs in the interim.

IMAGES



The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

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