



PATIENT

Gracie Schmitt

SPECIES

Canine

BREED

Bichon Frise

SEX

Female Spayed

AGE

13 years

WEIGHT

13lbs

INTERPRETED BY

Maggie Machen
 Lamy, DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

Q Street Animal
 Hospital

REFERRING VET

Dr. Bretschneider

INVOICE

27758

DATE

12/1/22

PRESENTING CLINICAL SIGNS

History: Coughing and cardiomegaly. Definitely improved on Furosemide and Vetmedin (but has developed diarrhea - possibly secondary to the Vetmedin). BP-120mmHg.
 -Current medications: Furosemide 12.5mg BID, stopped Vetmedin temporarily.
 -Radiographic findings: left sided cardiomegaly with severely displaced trachea dorsally.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
 Marked cardiomegaly; equivocal for CHF.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip.
 Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 20mm/mV. The average heart rate is 140bpm (range 125-166bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. Isolated VPCs are seen throughout; nine in a 30 second tracing, monomorphic. No supraventricular premature beats, pauses or other dysrhythmias observed.
 ECG diagnosis: Normal sinus rhythm with isolated VPCs.

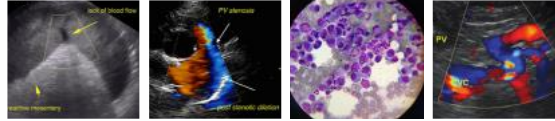
ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Normal MR velocity. Severe LV dilation with depressed myocardial function. The tricuspid valve appears mildly thickened with mild to moderate TR. Velocity consistent with mild 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. Trace AI and mild 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	5.0	3.0	2.7	2.8	33	60	0.4
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	NM	0.9	0.5	5.9	3.3	3.9	2.6
*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)
				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)

Adapted from June Boon, Veterinary Echocardiography, 1998
 Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435



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Hansson et al, Vet Rad and Ultrasound 2002 Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995	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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valve disease causing severe mitral and mild to moderate tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Mild pulmonary hypertension is noted, which is likely secondary to chronic LA pressure elevation. A small aortic leak is noted, and a baseline blood pressure is recommended. No additional issues are identified.

In light of the clinical signs and severity of disease on echocardiogram, the diagnosis is congestive heart failure and continued medications are warranted lifelong as below, even without obvious evidence of CHF on the radiographs. Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Cough suppression to improve QOL can also be considered (hydrocodone, 0.2-0.4mg/kg up to q4-6h PRN) for any residual mechanical cough in the face of normal sleeping respiratory rates. 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.

The ECG shows frequent single VPCs. These are no question secondary to significant structural disease in a stressed patient. My hope is that further stabilizing the structural disease will improve the arrhythmia and no obvious treatment is warranted at this time with only single beats. That being said, this patient certainly has risk for sustained arrhythmias, and monitoring is advised. Immediate reevaluation is suggested if the patient has any collapse episodes.

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.

PLAN

Administer Pimobendan 0.3mg/kg PO q12h (consider compounded version if GI upset persists). Administer Lasix 1-2mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Pending BP >130mmHg, continue ACEI 0.5mg/kg PO q12h.

Monitor SRRs at home. Monitor renal values and BP in 1-2 weeks and consider reassess ECG at this appointment.

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



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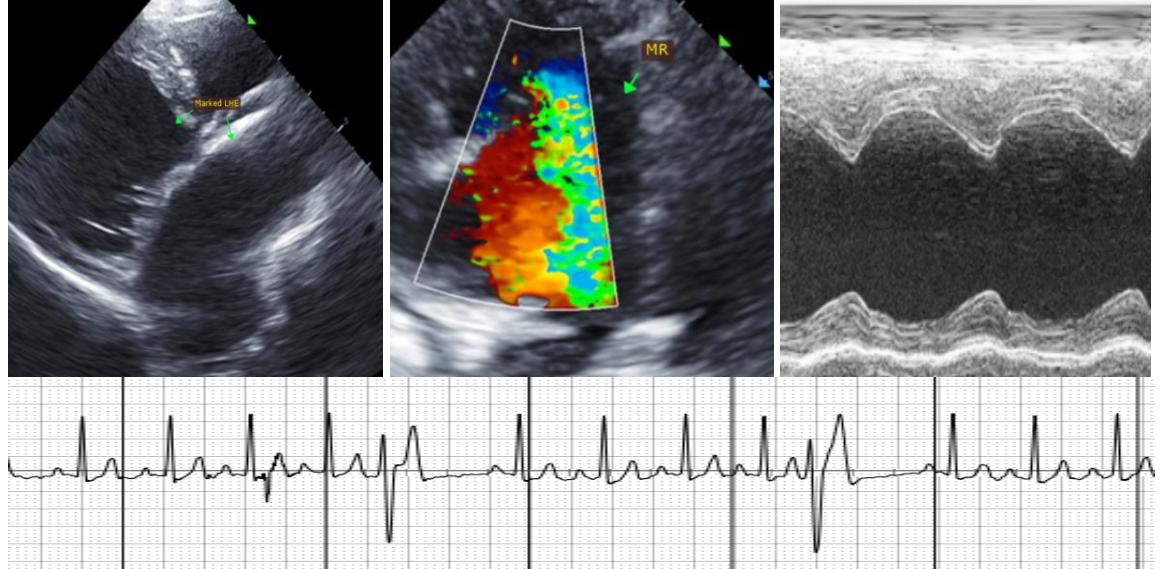
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IMAGES



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.

Maggie Machen Lamy, DVM
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