



PATIENT

Lucy Ponzio

SPECIES

Canine

BREED

Beagle

SEX

Female Spayed

AGE

12 years

WEIGHT

28lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Dana Alterman,
RDCS, LVT

HOSPITAL NAME

Eubank Animal Clinic

REFERRING VET

Dr Lloyd

INVOICE

22273

DATE

12/3/21

PRESENTING CLINICAL SIGNS

History: Diagnosed with CHF in 1/2021. ER visit 11/25/2021 for multiple syncopal episodes. Bloodwork unremarkable, elevated lactate. Today moderate pulses, while awaiting echo 2 episodes of vocalizing, falling over + becoming stiff with muddy MM and quick recovery. BP 144/98. During echo one episode of fast tachycardia. Concern for syncope vs seizures.
-Current medications: Furosemide 20mg SID, Pimobendan 5 mg in am + 2.5mg in pm, Sildenafil 10mg 1.5 T BID, Clopidogrel 75mg 1/4 PO BID (discontinued today), + Apoquel 16mg 1/2 T BID

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

A single lateral film is included. Cardiomegaly with LA enlargement. Mild PV distention. No obvious evidence of 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, 10mm/mV. The average heart rate is 120bpm (range 83-167bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets. Mild prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial enlargement. LV is dilated with hyperdynamic myocardial function and evidence of volume overload. The tricuspid valve is normal with no obvious tricuspid regurgitation. No obvious evidence of significantly elevated pulmonary arterial pressures. The pulmonic and aortic valves appear normal in appearance and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency noted. No pericardial or pleural effusion seen. No tumors identified.

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	NM	NA	1.8	2.2	64	92	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	0.93	1.0	12.7	4.0	4.4	1.6
*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)
*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)

Adapted from June Boon, Veterinary Echocardiography, 1998



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Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435	30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002	35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995	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)

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral regurgitation. Severe left atrial and ventricular enlargement indicates there is an elevated risk for spontaneous congestive heart failure. No additional issues such as pulmonary hypertension or systolic dysfunction are seen.

The ECG shows a normal sinus rhythm without significant tachycardia as was heard on exam. Finally, the chest radiographs do not show overt CHF; however, this may be impending even prior to radiographic changes.

Syncope in this patient is most likely cardiogenic in origin. Possible causes include poor forward blood flow leading to hypoxia, early CHF, pulmonary hypertension (not seen), an arrhythmia and/or blood pressure swings. In light of severity of disease on echocardiogram and acute syncope, early CHF may be contributing and alterations to cardiac supportive therapy is recommended as below. No obvious indication for Sildenafil based upon what is seen here, and this can be discontinued. **The report of tachycardia in the hospital is concerning and may not have been captured on the brief ECG.** If the episodes persist despite supportive therapy, an extended tracing and/or holter monitor may be necessary to determine if antiarrhythmic medication is needed.

Long term prognosis is guarded to poor; however, most dogs are able to maintain a good QOL on medications for an average of 8-12 months.

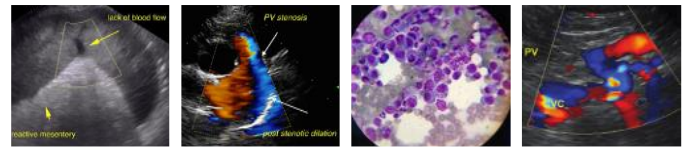
Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home. Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or worsening collapse episodes in the future. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

PLAN

Discontinue Plavix. No obvious indication for Sildenafil therapy. Dose increase: administer furosemide 20mg PO q12h. Continue Pimobendan as prescribed. Institute Spironolactone 1-2mg/kg PO q12h.

Monitor renal values, BP and potentially repeat ECG in 1-2 weeks depending on patient progression, then every 3-4 months lifelong. If BP >130mmHg and patient is doing well at home, institute ACEI 0.5mg/kg PO q12h at that time.

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



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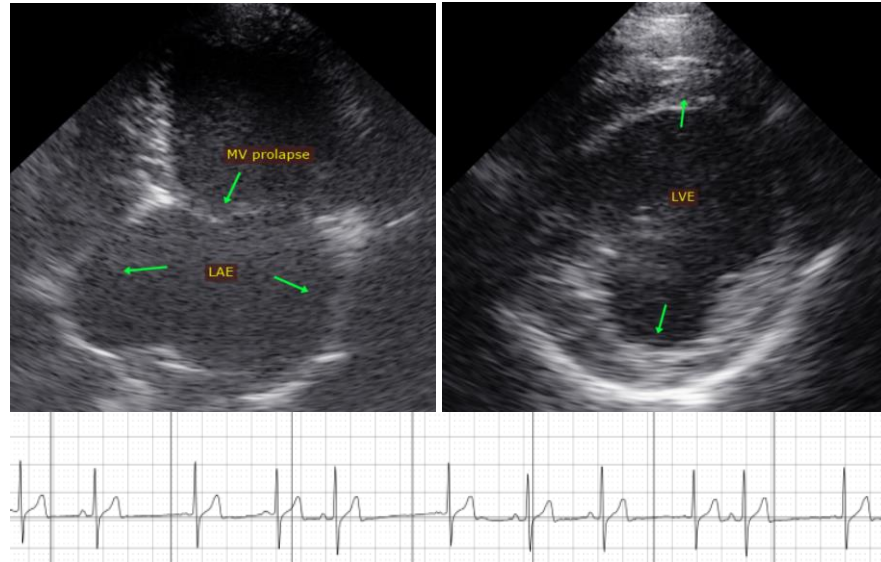
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IMAGES



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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