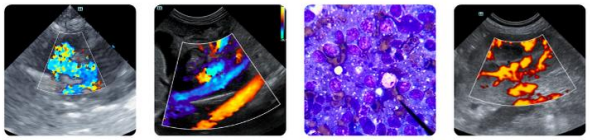


PATIENT
Keiko Davies

SPECIES
Canine

BREED
Chihuahua Mix

SEX
Female Spayed

AGE
15.2 years

WEIGHT
7lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Amanda Crook, SDEP

HOSPITAL NAME
River Edge Pet Medical Center

REFERRING VET
Dr. Tsuchida / Young

INVOICE
46082

DATE
12/8/25

PRESENTING CLINICAL SIGNS

History: Diagnosed 9/24/25 with CHF via CXR hospitalized until stable. Started on Lasix & Pimobendan. RR & cough have been controlled since then, recheck CXR on 10/22/25 showed much improved lung spaces. No change in dosage. Recently become inappetent, no coughing or RR >30/min per O. Has significant dental disease, and O believes Pt to have significant dental pain especially with having to force pill daily. Assess prior to dental. BP Doppler: 240, 215, 220, 205, 200mmHg.
-Current Medications: vetmedin 1.25mg - 1 tab PO BID. Furosemide 20mg - 1/2 tab PO BID. Convenia admin 12/1/25 for severe dental disease. 9/25/25 Enalapril 1.25mg BID New Rx: Entyce 0.35mL PO SID if needed, Buprenorphine 0.03mg (0.01mg/kg) transmucosal BID-TID.
-Abnormal PE/Chem/CBC/UA Results (9/24/25): CBC mild inflammatory leukogram (neut 14.76k, mono 1.25k), HCT 46.4% (WNL), PLT 813k (slight H). Chem 17 - Crea 1.7, BUN 29 (slight high), Ca 7.7 (slight L), all else WNL. Lytes - Cl 104 (L), K 4.5 (WNL), Na WNL. UA - SpGrav 1.050, 1+ protein, otherwise WNL.
-CXR (9/24/25): significant alveolar/interstitial pattern, backpack sign. (10/22/25): CHF much improved.

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

Cardiomegaly with LA enlargement. Lung fields improved across serial films consistent with CHF.

ELECTROCARDIOGRAPHIC FINDINGS

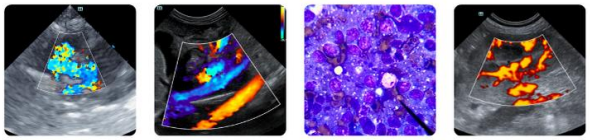
A six lead ECG is available at 25mm/s; 5mm/mV. The average heart rate is 100bpm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. There is severe left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. Mild right atrial and ventricular dilation (subjective). Mild thickening of the tricuspid valve with mild TR. Velocity consistent with moderate pulmonary hypertension. The aortic valve appears trileaflet with normal mobility. No significant AI. There is normal systolic flow velocity across the aortic valve. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. Flow through the RVOT/PV is normal in velocity. Trace PI. No pericardial/pleural effusion or cardiac masses are seen.

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	4.9	4.0	2.0	2.3	58	90	0.14
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	0.7	0.6	3.2	2.3	2.9	1.0



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*Normal chamber parameters expressed as a mean value (SD)				
BODY WEIGHT DEPENDENT PARAMETERS **Note: All measurements based upon multi-modal images and methods. An average value is reported.* 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	3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
	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)
	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

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. Moderate pulmonary hypertension is noted, which is likely secondary to chronic LA pressure elevation. A component of concurrent airway disease is certainly possible as well. No additional issues are identified. The ECG is normal with a normal sinus rhythm.

Given these findings, a diagnosis of congestive heart failure (stage C) is supported, and medications are warranted lifelong as below. Use of Sildenafil is likely unnecessary as the patient does not exhibit reported signs of pulmonary hypertension (i.e. exertional syncope or dyspnea). 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. If able to be stabilized, the average survival time of canine patients with active pulmonary edema is 8-9 months on medications; however, most are able to maintain a good quality of life for that period on medications. 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.

The reported blood pressure is elevated and should be reassessed for accuracy particularly given no reported clinical signs of severe hypertension (retinal changes, etc.) or evidence of LVH on echo. Ideally obtain serial measurements in a controlled, low stress environment and continue until 3 consecutive readings plateau within 5mmHg of variability. If persistently >180mmHg despite a relatively calm demeanor, recommend institution of amlodipine to effect. Additionally, if deemed accurate, screening for predisposing underlying causes of SHT is recommended (Cushing's, PLN, adrenal tumor, etc.), as primary disease is relatively uncommon and a rule out diagnosis.

Elective anesthesia is not advised, as there is high risk for complication. Risk: benefit ratio should be considered. Consider consultation with and/or referral to a facility with an anesthesiologist. Should you elect to proceed, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload, while considering comorbidities,

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hydration status, BP, etc. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

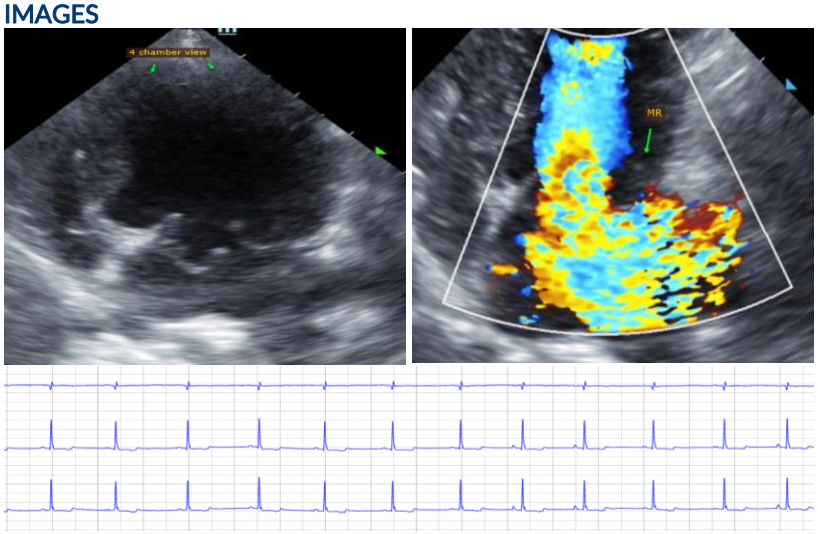
PLAN

Continue Pimobendan 0.3mg/kg PO q12h. Continue Furosemide 1-2mg/kg PO q12h. Continue ACE-I 0.5mg/kg PO q12h. Institute Spironolactone 1-2mg/kg PO q12h.

Monitor renal values and BP in 10-14 days, then every 3-4 months while on diuretics to ensure tolerance of medications. If hypertension is persistent, consider addition of Amlodipine and full systemic evaluation. Consider hydrocodone if needed for QOL.

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.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com