



PATIENT

Rocko Zahra Bandbaz

SPECIES

Canine

BREED

Chihuahua

SEX

Male Neutered

AGE

13 years

WEIGHT

9.5lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

HOSPITAL NAME

Roundhill Animal
Hospital

REFERRING VET

Dr. Kelly

INVOICE

22413

DATE

2/7/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Cough getting worse, fluctuates depending on meds. Heart rate is at 150-160, pulmonary edema is not detected.

-Current medications: Sildenafil 10mg TID, Cerenia, Furosemide 1% 1.5cc po bid (in conjunction with subcutaneous injection of furosemide). Substitutes oral for injectable depending on severity of cough. Furosemide 5%: 0.35cc sq TID, Spironolactone 25mg: 1/4 of a tablet once daily, Hydrocodone 1mg/ml, 2.5 cc at bedtime, 2am and 6am to control cough. Pimobendan: 1.25mg BID

-Pertinent previous echo findings (6/2021 MML): severe MR, severe LAE, mild LVE, mild RHE, mild TR, 3.4m/s, FS 60, LA 3.1, LV 3.0

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with significant prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is decreased. 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 mild PAH. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. 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	4.3	3.4	NM	2.3	64	91	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	NM	0.9	0.7	4.3	2.7	3.2	1.2
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with relative stability. While severe, there is no obvious evidence of progression with similar left heart dimensions. Additionally the right heart remains mildly enlarged, with unchanged pulmonary pressures. No additional issues are identified.

A progressive cough in this patient is likely due to primary respiratory causes given a lack of pulmonary edema in the history and no significant progression. The medications are difficult to definitively calculate; however, the dose of Lasix is extremely high for this body size. It is important to note that **additional Lasix should ONLY be given with recurrent CHF and not used for a primary respiratory cough.** More aggressive/frequent hydrocodone is best used in this instance. Additionally repeat CXR, a course of Baytril or similar, etc should be considered with an acute increase in symptom. This patient has both severe end stage disease cardiac and respiratory disease, and we are simply trying to maintain QOL for as long as possible. Monitoring of renal values is strongly recommended every 2-3 months.

Continued 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.

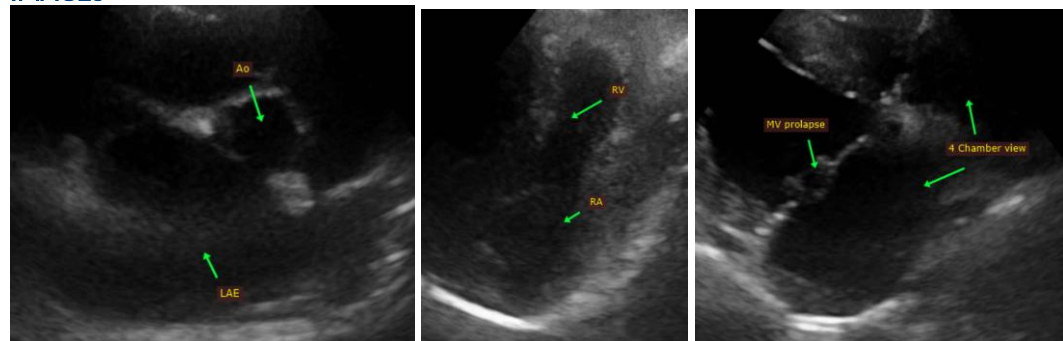
The average survival time of canine patients with active pulmonary edema is 8-9 months on medications; however, they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

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: Continue Sildenafil/Pimobendan/Spironolactone prescribed. Lasix should be limited to <6-8mg/kg/day. Consider a dose inc in hydrocodone as discussed, course of Baytril or similar, CXR, etc.

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

IMAGES





Portable Animal Western Sonography, Inc.

IMAGING PERFORMED BY

pawsonography@gmail.com  530-786-8340

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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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