



PATIENT

Cowboy Myamoto

SPECIES

Canine

BREED

Chihuahua

SEX

Male Neutered

AGE

14 years

WEIGHT

9.9lbs

PRESENTING CLINICAL SIGNS

History: Presented to ER 2/12/22 in congestive heart failure. Was treated as an outpatient. Has been on pimobendan and furosemide since. Was running out of furosemide. Labored breathing started Wednesday night. Coughing. Decreased appetite. Has developed diarrhea without blood. Admitted and has been on oxygen. PE - initially crackles were heard, have resolved. Grade IV/VI systolic heart murmur.

-Current medications in hospital: Pimobendan 1.25mg BID, furosemide 20mg q4h for 24 hours (previously was on 10 mg po BID).

-Abnormal PE/Chem/CBC/UA Results: Blood work on 2/12 = mild inc. in BUN.

-Radiographs: (2/12): Moderate left heart enlargement with enlarged pulmonary veins. Perihilar and caudodorsal interstitial pattern w/ compression of main stem bronchi from enlarged LA.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Severe diffuse nodular thickening of mitral valve leaflets. Significant 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 appears thickened with septal prolapse and moderate tricuspid regurgitation. Moderately elevated velocity consistent with pulmonary hypertension. Right heart and MPA are mildly dilated. The pulmonic and aortic valves appear normal in appearance and mobility. Normal pulmonic and aortic outflow velocities. No pulmonic or aortic insufficiency noted. No pericardial or pleural effusion seen.

CARDIAC CHART

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Kelly Romero, DVM

HOSPITAL NAME

FC Veterinary
Emergency Hospital

REFERRING VET

Dr. Romero

INVOICE

22816

DATE

2/25/22

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	4.5	3.9	2.1	2.1	50	82	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	0.6	4.5	2.4	3.7	2.1
*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 causing severe mitral and moderate tricuspid regurgitation. Severe left atrial and ventricular enlargement indicates there is an elevated risk for spontaneous congestive heart failure. Moderate pulmonary hypertension is also documented, which is suspected to be secondary to chronic LA pressure elevation and congestion. No additional comorbidities are seen such as systolic dysfunction.

In light of severity of disease and the chest radiograph findings, more aggressive lifelong cardiac supportive therapy is warranted as below. I do feel the patient may also benefit from Sildenafil therapy, which is as below. Additionally, Hydrocodone can be utilized if needed for pulmonary respiratory causes of coughing. Finally, an ACEI should be considered in any patient on diuretics assuming the renal values will allow.

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. Patient will always be at risk for recurrent CHF, malignant arrhythmias and/or sudden death in the future.

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.

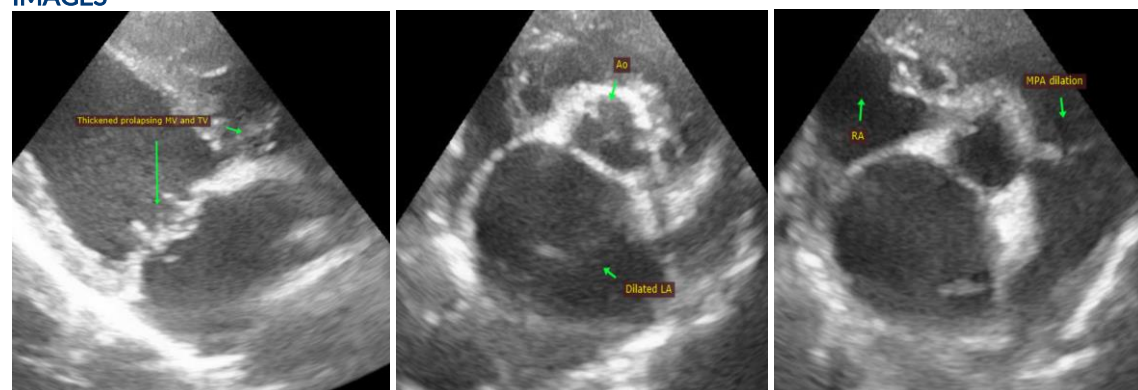
PLAN

Assuming renal values/BP will allow: institute Spironolactone 1-2mg/kg PO q12h and ACE-I 0.5mg/kg PO q12h. Continue Lasix 1-2mg/kg PO q12h. Continue Pimobendan 0.3mg/kg PO q12h. Institute Sildenafil 1-2mg/kg PO q12h. Highly recommend Hydrocodone for any mechanical component (i.e., independent of breathing changes).

Monitor SRRs at home. Monitor renal values and BP every 3-4 months while on diuretics. If the symptoms persist despite these changes, a further dose increase in Lasix may be necessary.

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

IMAGES





PATIENT

Cowboy Myamoto

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.

SPECIES

Canine

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.

BREED

Chihuahua

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

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