



**PATIENT**

Chewy Cook

**SPECIES**

Canine

**BREED**

Lhasa Apso

**SEX**

Male Neutered

**AGE**

11.11 years

**WEIGHT**

21lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Tom McNeill

**HOSPITAL NAME**

SVS Imaging CT

**REFERRING VET**

Dr. Kreier

**INVOICE**

27349

**DATE**

11/8/22

**PRESENTING CLINICAL SIGNS**

History: Historic heart murmur, now grade 5/6 with wheezes and raspy sounds on auscultation. Presented on 11/3/22 for coughing in the evenings over the last three days- seems to happen mostly at night when resting. No exercise intolerance. Patient has not been on any cardiac medications prior to visit on 11/3. Eating, drinking, urination, defecating normally.  
-Current medications: Pimobendan 5mg 1/2 T PO BID, Benazepril 5mg 1 T PO BID, Furosemide 20mg 1T PO BID.  
-ECG report (Idexx): Rapid atrial fibrillation.  
-Thoracic radiographs: Consistent with left-sided heart failure.

**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 mitral regurgitation with marked left atrial dilation. Severe LV dilation with hyperdynamic systolic function. The tricuspid valve appears mildly thickened with septal prolapse and no obvious tricuspid regurgitation. Mild right heart dilation. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency. No pericardial or pleural effusion seen. No cardiac tumors observed. Rapid irregular tachycardia throughout.

**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	4.7	NA	NM	2.5	33	61	0.3
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	157	1.3	0.7	9.5	4.3	4.5	3.0
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				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)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Chronic degenerative valve disease causing severe mitral regurgitation. Severe CVD has progressed to 4 chamber dilation, and consequently a rapid arrhythmia (AF) has developed. Mild right heart dilation is also noted; however, this is suspected to be secondary to tachycardia. No additional issues are identified.

Given the development of an arrhythmia and severity of structural disease seen, this patient is in congestive heart failure. It is important to note that right-sided congestion (effusions) develops

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secondary to the arrhythmia, while left-sided congestion (pulmonary edema) develops due to structural disease. Going forward, aggressive therapy is recommended as below. **The importance of rate control with rapid AF cannot be stressed enough. Without rate control it will be difficult to manage CHF appropriately. Treatment should be dictated by the ECG report.**

SPECIES

Canine

Unfortunately, dogs with CHF and arrhythmias are at high risk for complications such as recurrent congestive heart failure, malignant arrhythmias and sudden death. Medications and close monitoring will help give the best prognosis possible, however the average survival time with this condition is <6 months.

BREED

Lhasa Apso

Goals of therapy include correcting water retention, improving myocardial contractility, and afterload reduction. Medical management is recommended as below with a guarded to poor prognosis. No clinical signs are mentioned; however, if the patient appears unstable hospitalization for rate control may be necessary. If declined, I have listed oral medications as below.

SEX

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AGE

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Monitor at home for cough, lethargy, inappetence, collapse/fainting episodes or increase in respiratory rate or effort. Monitoring of sleeping breathing rates is recommended to screen for recurrent CHF at home. Moderate activity restriction is advised. Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

WEIGHT

21lbs

PLAN

Continue rate control is recommended as dictated by the ECG report. Consider hospitalization for IV diuretic/rate control therapy.

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(Cardiology)

Oral medications: Institute Spironolactone 1-2mg/kg PO q12h. Administer Furosemide 1-2mg/kg PO q8h for 3-5 days, once doing well at home decrease to q12h. Administer Pimobendan 0.2-0.3mg/kg PO q12h. Administer ACEI 0.5mg/kg PO q12h.

Recheck renal panel/BP in 10-14 days to ensure tolerance of medications, then every 3-4 months lifelong.

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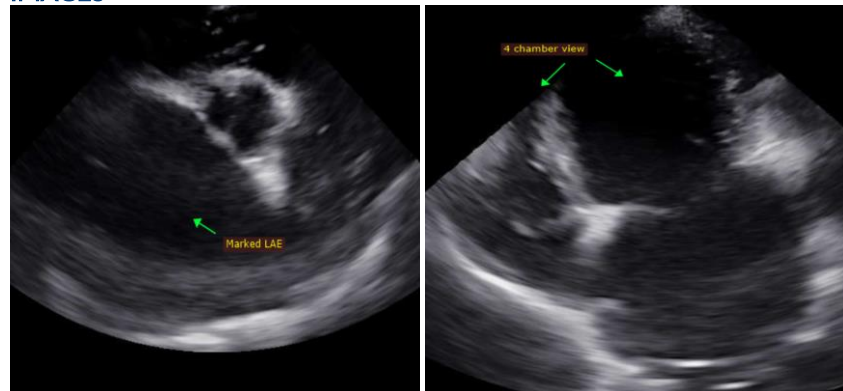
Tom McNeill

A recheck echocardiogram is recommended in 6 months to screen for progression.

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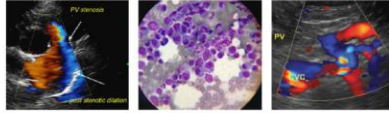
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the

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image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

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Diplomate of the American College of Veterinary Internal Medicine (Cardiology)

info@sonopath.com

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