



PATIENT

Bella Syvertsen

SPECIES

Canine

BREED

Chihuahua

SEX

Female Spayed

AGE

12 years

WEIGHT

11.3lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Tom McNeill

HOSPITAL NAME

SVS Imaging CT

REFERRING VET

Dr. Wiegel

INVOICE

27304

DATE

11/7/22

PRESENTING CLINICAL SIGNS

History: Grade 5/6 heart murmur. Patient presented for an increased cough.

-Current medications: Enalapril 2.5mg BID, Vetmedin 1.25mg BID, Furosemide, 12.5mg am, 6.25mg mid-day, 12.5mg pm, hydrocodone syrup 1.5mg q6-8h.

-Abnormal PE/Chem/CBC/UA Result (9/14/22): Creat 2.0, BUN 63, SDMA 33.

ECHOCARDIOGRAM FINDINGS

2D, m-mode and Doppler imaging are available. Diffuse thickening of mitral valve leaflets (anterior > posterior) with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Significant LV dilation with hyperdynamic myocardial function. The tricuspid valve appears normal with no tricuspid regurgitation. No significant right heart enlargement. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No pulmonic or aortic insufficiency. No pericardial or pleural effusion noted. No cardiac tumors observed.

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	4.8	NA	2.2	2.1	50	82	0.26
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	186	1.3	1.2	5.1	2.5	3.9	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)
<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

The cause of the murmur is chronic degenerative valve disease causing severe mitral regurgitation. Severe left atrial enlargement indicates the risk for spontaneous congestive heart failure is elevated. No additional issues such as systolic dysfunction are identified.

The described cough is likely multi-factorial in origin, including a mechanical component due to cardiomegaly, possible concurrent airway disease and/or early CHF given the severity of disease. Screening chest radiographs are recommended. Given the symptoms and echo findings, full lifelong cardiac support is recommended as below including Lasix therapy. **It is important to note**

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this patient is already on >6mg/kg per day of Lasix and a mechanical component is suspected to be contributing. No further Lasix increases are recommended until CHF is clearly documented on chest radiographs or dyspnea noted clinically. If CHF has NOT been documented, a dose decrease may be warranted given current renal values. Further historical information is necessary.

SPECIES

Canine

Depending on clinical response to the medications, cough suppression is recommended. Monitoring of sleeping breathing rates in the future will be paramount to determine the origin of any future cough. The average survival 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. Monitoring of renal values is recommended lifelong.

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Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a worsening cough, labored breathing, exercise intolerance or collapse episodes.

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PLAN

Screening BP and CXR are recommended. Continue Pimobendan 0.3mg/kg PO q12h. Continue Lasix as prescribed with no additional increases unless CHF is documented. If CHF has NOT been documented, consider a dose decrease to 12.5mg BID. Administer Spironolactone 1-2mg/kg PO q12h. Continue ACE-I as prescribed. Consider hydrocodone with homatropine (0.2-0.4mg/kg PO up to q4-6 hours PRN) if cough persists despite normal SRRs.

WEIGHT

11.3lbs

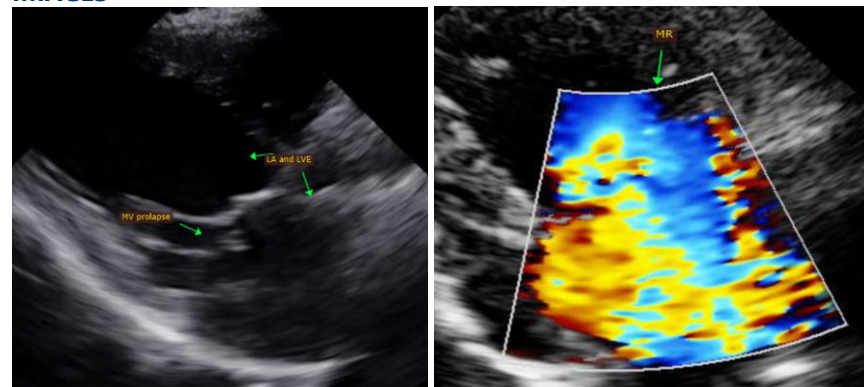
A renal panel and BP are recommended every 3-4 months on diuretics to ensure tolerance of medications.

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A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise/persist.

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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.

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I

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1-800-838-4268 info@sonopath.com SonoPath.com

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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

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