



PATIENT

Molly Natalia

SPECIES

Canine

BREED

Chihuahua

SEX

Female Spayed

AGE

13.7 years

WEIGHT

3.8lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

HOSPITAL NAME

Grass Valley
Veterinary Hospital

REFERRING VET

Dr. Cortright

INVOICE

29622

DATE

3/15/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. Progressive heart murmur, now grade 4/6.
2-14-23: presents for 2 months of coughing and now labored breathing. Started on Lasix 12.5mg 1/2 PO BID and pimobendan 1.25mg 1/2 PO BID. 2/20/2023 Lowered Lasix to 1/2 tab PO AM and 1/4 PM, no coughing, breathing ok but pu/pd. 3/6/2023 Lowered Lasix to 1/4 PO BID no coughing, breathing ok, still pu/pd
-Abnormal PE/Chem/CBC/UA Results: Abnormal CBC values: WBC= 2.61 / NEU= 1.51 / LYM=0.96 / MONO =0.1 / EOS= 0.04 Abnormal Chemistry Values: T.P =5.1 / ALB= 2.1 / RBC= 4.96 / HCT= 29.9 / HGB= 11.4 / MCV= 60.3 / MCHC= 38.1.
-Radiographs: Moderate left- sided cardiomegaly, consistent with mitral regurgitation. Evidence of left-sided cardiac decompensation with moderate pulmonary edema. Unremarkable abdomen.
-Pertinent previous echo findings (MML 8/2022): mild MR, mild LAE, no LVE, trace TR 2.1m/s, LA 1.8 LV 2.0

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. (2/14/23) Mild cardiomegaly without obvious CHF. Suspicion for lower airway changes.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with mild prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with mild left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	5.1	2.6	NM	1.4	72	96	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	155	1.2	0.8	6.5	1.5	2.3	0.7
*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)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				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)

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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	50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with evidence of stability. Previously mild MR is slightly increased to moderate; however, the LA and LV remain unchanged. Trace tricuspid regurgitation is similar to previous, without PAH. Lack of significant left atrial enlargement indicates the current risk for complication is low. No concurrent issues such as systolic dysfunction are noted in this study.

These findings would suggest historical CHF is unlikely. The films are more consistent with airway changes, and strongly recommend a Radiologist review. Lasix nor Pimobendan are clearly warranted in this case. That being said, given the unusual nature reasonable to continue Pimobendan for now. Primary respiratory issues are considered likely, particularly given an increased respiratory rate upon exam today (ie despite Lasix). Consider repeat films for comparison study.

Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1). Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

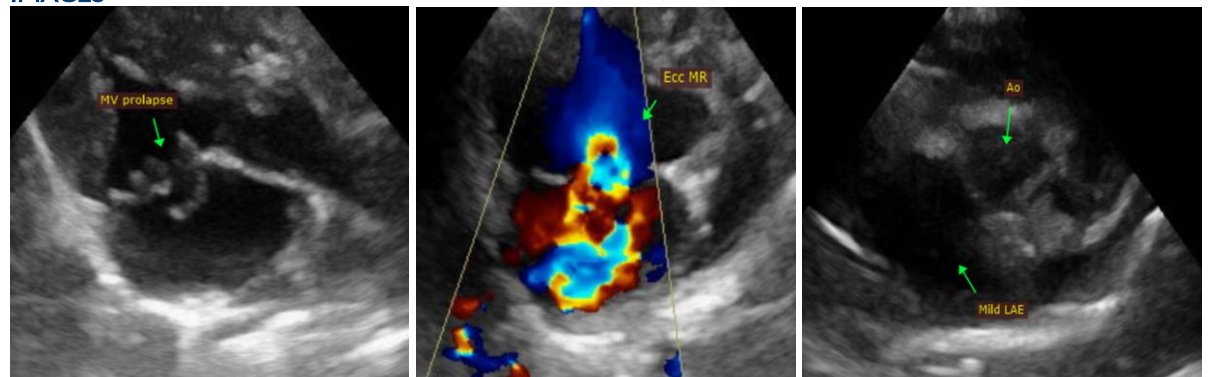
Anesthetic risk is considered mild if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

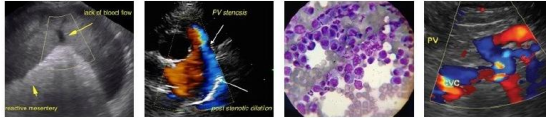
PLAN

Consider submit serial chest radiographs for Radiologist review in light of the echo findings. No obvious indication for Lasix. Continue Pimobendan 0.3mg/kg PO q12h. Consider primary respiratory therapy.

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

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.

BREED

Chihuahua

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.

SEX

Female Spayed

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

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