



PATIENT

Nina Glain

SPECIES

Canine

BREED

Chihuahua

SEX

Female Spayed

AGE

12 years

WEIGHT

11lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

HOSPITAL NAME

Mountain View
Animal Hospital

REFERRING VET

Dr. Kalivoda

INVOICE

21421

DATE

10/7/21

PRESENTING CLINICAL SIGNS

History: Nina has an increasing murmur of 5-6/6 on exam and in addition despite medication, still has a soft cough and the liver values are continuing to increase.
-Abnormal lab results: BUN= 55 Creat 2.4, ALT=567, ALP=319.
-Current medications: Spironolactone 10mg SID, Doxycycline 25mg BID, Furosemide 6.25mg BID, Denamarin 225mg chewable once daily, Vetmedin 1.25mg, 1.5tablets BID, Coenzyme Q10 Daily.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
10-7-21 Mild cardiomegaly with mild LAE. No obvious evidence of CHF. No prior films included. Then

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 50mm/s; 10mm/mV. The average heart rate is 120bpm (range 100-176bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation.

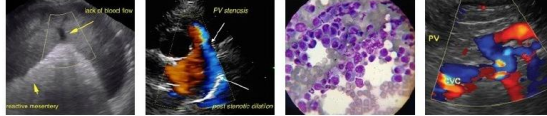
ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets (anterior>posterior) with mild prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with moderate left atrial dilation. Normal MR velocity. Mildly increased LV diameter with hyperdynamic myocardial function. The tricuspid valve appears subjectively normal, with trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter. 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 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	6.1	2.5	NM	1.8	41	73	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		1.3	0.72	5.0	2.2	3.3	1.9
*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)

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



PATIENT

Nina Glain

Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995	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)

SPECIES

Canine

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and trace tricuspid regurgitation. Moderate left atrial enlargement indicates there is relatively low risk for imminent complication, however risk for progression to spontaneous congestive heart failure in the future is elevated. No additional issues are identified.

BREED

Chihuahua

Given the risk for progression and results of the EPIC trial, Pimobendan is indicated in this patient as below. Prior to severe disease Spironolactone is likely unnecessary and can be safely discontinued. Assessment of progression in the future will help predict long term outcome; however, prognosis is guarded at this stage (B2). The ECG is unremarkable with a respiratory sinus arrhythmia.

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While mainstem bronchi compression may certainly be contributing to a chronic increase in coughing, other primary airway contributions should also be considered more likely (tracheal collapse, COPD/chronic bronchitis, etc), particularly given a lack of response to Lasix. Consider hydrocodone for any mechanical component due to cardiomegaly. Unless CHF was noted on the initial films (considered unlikely), Lasix can also be discontinued. If there is any question on this differentiation consider submit films for radiologist review.

WEIGHT

11lbs

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

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DVM, DACVIM
(Cardiology)

Anesthetic risk is considered mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, Propofol or alfaxalone induction, iso or sevo gas) are recommended. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Judicious IV fluid rates are recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

IMAGING PERFORMED BY

Loetitia St-Jacques,
LVT/RVT

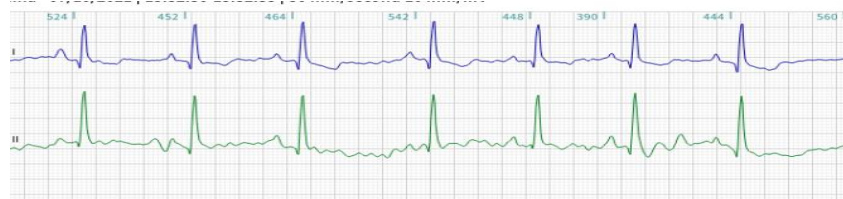
Plan: Continue heart muscle support Pimobendan 0.3mg/kg PO q12h. Unless CHF was documented, Lasix and spironolactone can be safely discontinued. If there is any question, consider submit serial radiographs for radiologist review. Consider hydrocodone as discussed.

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Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

IMAGES



REFERRING VET

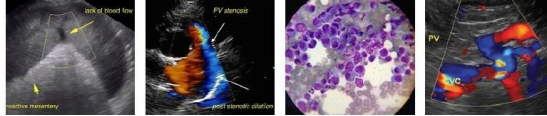
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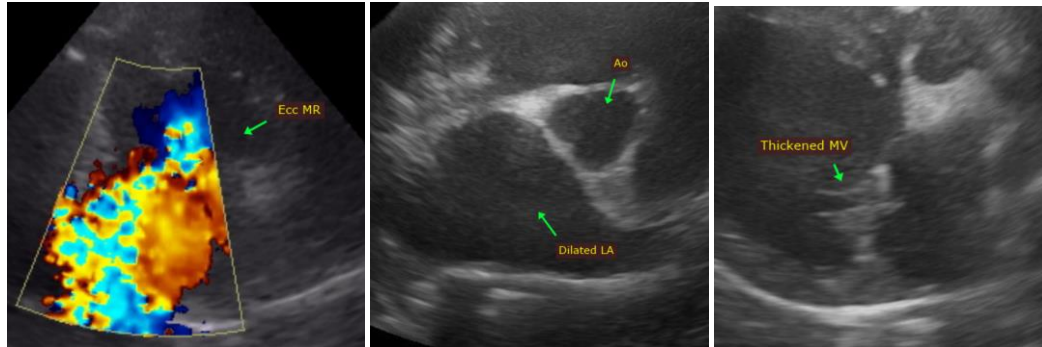
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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