



PATIENT

Valentino Nakayama

SPECIES

Canine

BREED

Shih Tzu Mix

SEX

Male Neutered

AGE

15 years

WEIGHT

14.2lbs

INTERPRETED BY

Maggie Machen
 Lamy, DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Sara Hansen

HOSPITAL NAME

VCA Mckenzie
 Animal Hospital

REFERRING VET

Dr. Fricke

INVOICE

25740

DATE

8/11/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Asymptomatic.
 -Abnormal PE/Chem/CBC/UA Results: Normal Chem/CBC/T4.
 -BP: 132/100/132 hr 111 132/100/106 hr 100 145/77/97 hr95
 -Current medications: Vetmedin 2.5mg q12h, Canine Cardiac Support 1/8 tsp q12h, Vitamin D 500IU q24h, Denamarin Advanced 1/4-tab q24h, 1-TDC 1 capsule daily, Simparica Trio monthly.
 -Pertinent previous echo findings (12/2019 MML): Moderate MR, moderate LAE, mild LVE, mild TR. LA: 2.3, LV: 2.7, TR: 2.4.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
 Mild cardiomegaly. No obvious evidence of CHF.

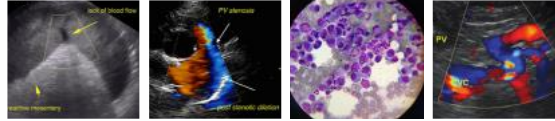
ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.
 A single lead ECG is available; 50mm/s, 20mm/mV. The average heart rate is 120bpm (range 79-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. 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. The mitral valve is diffusely thickened with mild prolapse into the left atrial lumen. There is moderate eccentric mitral regurgitation present. The MR velocity is normal. There is mild to moderate left atrial enlargement with a horizontal component not captured in the LA:Ao. There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. Normal right atrium. Normal right ventricle. Mild thickening of the tricuspid valve with mild tricuspid regurgitation. Normal velocity. No pericardial/pleural effusion or cardiac masses are seen.

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	5.2	2.7	NM	1.6	53	92	0.2
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	108	1.9	1.5	6.4	2.1	3.0	1.4



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*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 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	5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
	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 persists with evidence of stability. Moderate mitral and mild tricuspid regurgitation are unchanged without progressive left or right heart enlargement. Given the timeframe, this is certainly good news. Moderate left atrial enlargement indicates the risk for spontaneous congestive heart failure is relatively low however there is high risk for progression going forward. There is no evidence of early pulmonary hypertension or other comorbidities at this time. The ECG is unremarkable.

Given these findings, no additional medications are warranted. Continue Pimobendan going forward.

Anesthetic risk remains mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso/sevo gas) are recommended. Pre-oxygenate for 5-10 min prior to induction. 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.

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

PLAN

Continue Pimobendan 0.3mg/kg PO q12h.

A recheck echocardiogram is recommended in 6-12 months to screen for progression, sooner if clinical signs arise.



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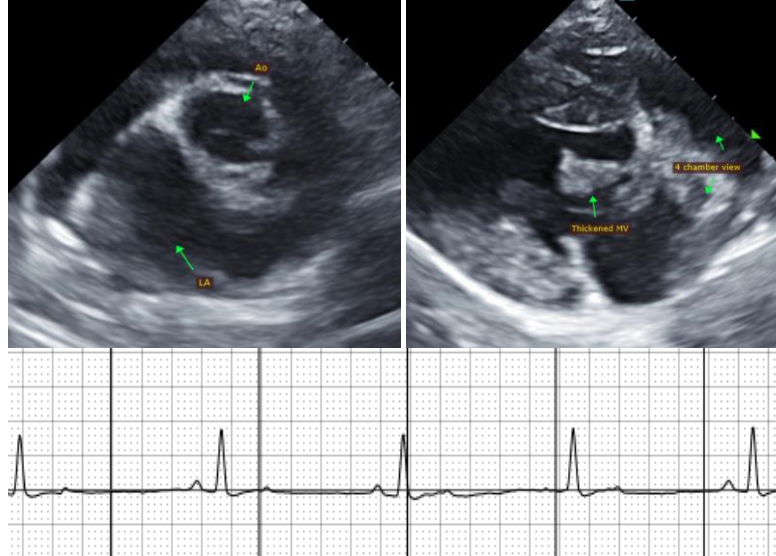
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IMAGES



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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