



PATIENT

Gizmo Lueras

PRESENTING CLINICAL SIGNS

History: 5/6 murmur with cough. Radiographs show CHF and pulmonary edema.
-Current medications: On Pimobendan and furosemide.

SPECIES

Canine

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; 25mm/s, 20mm/mV. The average heart rate is 120bpm (range 60-188bpm). 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 other dysrhythmias observed. ECG diagnosis: Suspect profound respiratory sinus arrhythmia.

BREED

Shih Tzu

SEX

Male Neutered

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with significant prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with no left atrial enlargement. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with no tricuspid regurgitation. 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. No pulmonic insufficiency. No aortic insufficiency. No pericardial or pleural effusion noted.

AGE

12 years

WEIGHT

12.4lbs

CARDIAC CHART

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

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	NM	2.66	NM	1.3	56	90	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	NM	0.97	1.0	5.6	1.67	2.5	1.1
*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)

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

HOSPITAL NAME

Eubank Animal Clinic

REFERRING VET

Dr. Russman

INVOICE

21375

DATE

10/4/21



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IMAGING PERFORMED BY

Dana Alterman,
RDCS, LVT

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral regurgitation is identified. Lack of left atrial dilation indicates the disease is currently well compensated for and the risk for spontaneous congestive heart failure is low at this time. No additional issues such as pulmonary hypertension or systolic dysfunction are identified.

Given these findings and the breed being highly predisposed to primary respiratory disease, this is more likely to be the cause of recent respiratory signs. The ECG would support this as well with a respiratory sinus arrhythmia that is typical of high vagal tone (i.e., secondary to respiratory disease). This is discordant with the reported radiograph findings however, although CHF would be highly unlikely in this case. **Consider Radiologist review of the prior films in light of the echo findings if not already performed.** Regardless, there is no obvious risk for CHF in this patient and recommend discontinue of cardiac supportive medications. If respiratory signs persist or recur in the future, repeat radiographs would be highly recommended. Hydrocodone is often used in these cases assuming a respiratory issue is confirmed. If there was an acute worsening of symptom, a course of Baytril may be useful to cover infectious etiologies.

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.

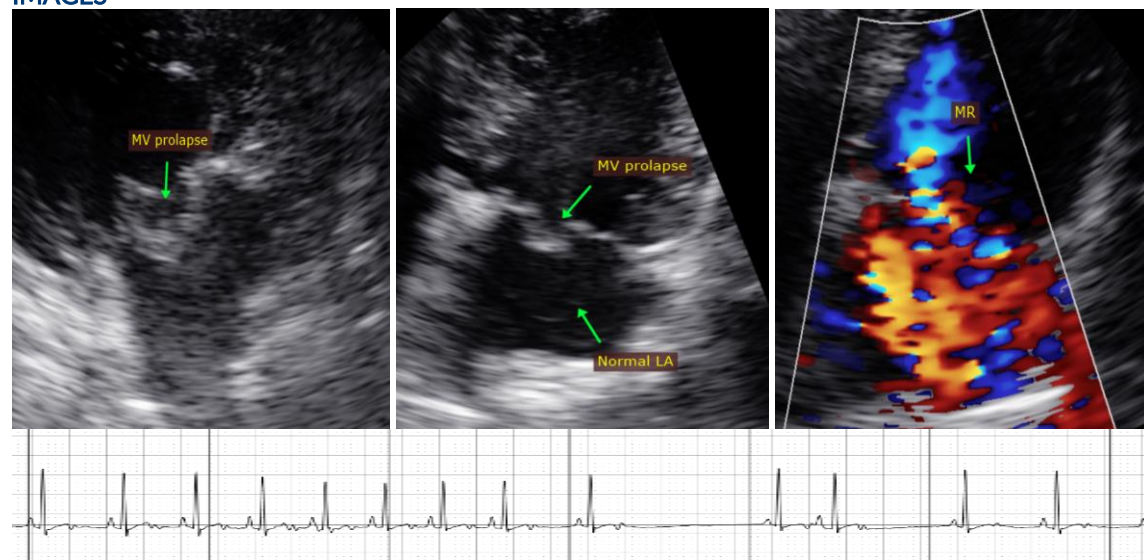
Anesthetic risk is considered mild. Recommend mild IV fluid restriction. Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless clinically indicated.

PLAN

Discontinue cardiac supportive medications. Consider reassess chest radiographs as discussed. Consider Hydrocodone, Baytril etc. as discussed.

Recommend conservative monitoring with a recheck echocardiogram in 6-12 months, sooner if any development of clinical signs.

IMAGES





PATIENT

Gizmo Lueras

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.

SPECIES

Canine

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.

BREED

Shih Tzu

Maggie Machen Lamy, DVM
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