



PATIENT

Tina Rivera

SPECIES

Canine

BREED

Toy Poodle

SEX

Female Spayed

AGE

13 years

WEIGHT

6.13lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

G. Ferrer, DVM

HOSPITAL NAME

Pulse: Pet Ultrasound
Services

REFERRING VET

Dr. Soto

INVOICE

46255

DATE

12/18/25

PRESENTING CLINICAL SIGNS

History: Grade 3/6 heart murmur. Chronic cough. Possible syncopal episodes. BP: 132mmHg. Assess prior to anesthesia. Cardiomegaly on CXR.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

A single lateral film is included. Mild cardiomegaly. No obvious evidence of CHF.

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. Severe eccentric mitral regurgitation with moderate to severe left atrial dilation. Normal MR velocity. Mildly increased LV diameter with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened, with mild tricuspid regurgitation. Velocity consistent with early pulmonary hypertension. 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 and trace 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	4.8	3.0	NM	1.9	65	93	0.13
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	0.8	0.8	2.8	2.0	2.9	1.0
*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)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing severe mitral and mild tricuspid regurgitation. Moderate to severe 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. Early pulmonary hypertension is noted, which is likely secondary to a reported cough in this case. No additional issues are identified.



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An exact cause for syncope is not apparent with only mild pulmonary hypertension and presumably reasonable cardiac output. Further workup may be warranted should the symptom progress in the future. This includes an ECG, etc.

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While mainstem bronchi compression may certainly be contributing to an increase in coughing, other primary airway contributions should also be considered (tracheal collapse, COPD/chronic bronchitis, etc.). Consider hydrocodone for any mechanical component due to cardiomegaly. If the cough is poorly controlled and/or progresses long term, pulmonary hypertension (PAH) can develop secondarily. Signs of clinically relevant PAH include exertional dyspnea or exertional syncope. It is important to note that PAH does not cause the cough; rather, the cough leads to PAH.

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Given the risk for progression and results of the EPIC trial, Pimobendan is indicated in this patient as below. Additionally, an ACEI is reasonable pending BP assessment, although the benefit is theoretical. Assessment of progression in the future will help predict long term outcome; however, prognosis is guarded at this stage (B2). Fifty percent of stage B2 patients typically develop CHF within 2-2.5 years of diagnosis. The median time to development of CHF in B2 cases treated with pimobendan is 3.5 years.

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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 progressive cough, labored breathing, exercise intolerance or collapse episodes.

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DVM, DACVIM
(Cardiology)

Once on the medications for 3-5 days, anesthetic risk is considered moderately 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. Avoid alpha 2 agonists such as Dexdomitor.

IMAGING PERFORMED BY

G. Ferrer, DVM

PLAN

Institute heart muscle support Pimobendan 0.25-0.3mg/kg PO q12h. Baseline BP recommended. If BP>150mmHg, institute an ACEI 0.5mg/kg PO q12h. Further workup for cough and syncope as discussed.

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

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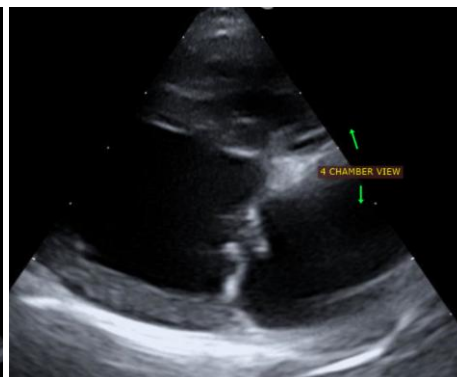
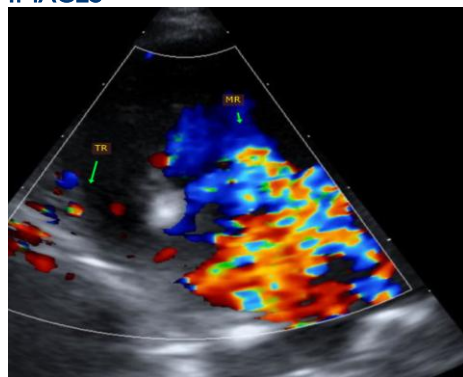
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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