



PATIENT

Cossette Ortiz

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

Male

AGE

7 years

WEIGHT

5lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

G. Ferrer, DVM

HOSPITAL NAME

Paseos Veterinary
Center

REFERRING VET

Dr. Cruz

INVOICE

22842

DATE

2/28/22

PRESENTING CLINICAL SIGNS

History: Grade 3/6 heart murmur. Assess prior to anesthesia. History of frequent hypoglycemia episodes. A previous EKG was done on 2-24-22 and showed HR at 189bpm. Rhythm: sinus.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Moderate left ventricular dilation with significant systolic dysfunction. Mildly decreased LV wall thickness and increased sphericity. Mild to moderate left atrial enlargement. The mitral valve appears thickened with no obvious prolapse into the left atrial lumen. Mild eccentric mitral regurgitation. Normal velocity. The tricuspid valve appears normal in form and function. No obvious TR. Mild right atrial and ventricular dilation. The aortic and pulmonic valves appear normal in morphology and mobility. No PI or AI. Normal LVOT/RVOT velocity. No pericardial or pleural effusion noted. No obvious cardiac tumors.

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	5.7		NM	1.8	20	36	0.6
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	170	1.1	1.1	2.3	1.5	2.7	2.1
*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

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, this patient has changes most consistent with occult Dilated Cardiomyopathy (DCM). This is exceedingly rare in this particular signalment, and underlying causes should certainly be considered as below. There is a decline in systolic function, accompanied by significant LV dilation and increased sphericity. Mild MR is noted, which may represent concurrent mild chronic degenerative valve disease or may simply be secondary to dilation. The LA is mild to moderately increased, indicating relatively low risk for complication at this time. In the future the risk will likely increase for development of congestive heart failure, malignant arrhythmias (AF, VT), collapse and/or sudden death.



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Systolic failure can be primary in nature (DCM) or secondary to taurine deficiency, certain drugs such as Doxorubicin, myocarditis, hypothyroidism, tachycardia-induced cardiomyopathy, or infiltrative disease such as lymphoma. In a senior toy breed, primary disease is unlikely and testing for primary causes is recommended, such as a thyroid panel and/or troponin level.

Additionally, a Taurine level may be helpful to screen for malabsorption. Regardless of result, I would institute a taurine supplement to cover all bases. A thorough diet history is recommended, assessing for grain free, boutique brands and/or exotic ingredient options with a diet change if indicated. Regardless of cause, prognosis is guarded long term with risk for complications going forward.

Recommend Pimobendan in this case and close monitoring will help give the best prognosis possible. No additional medications are indicated at this time.

Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes in the future. Monitoring of sleeping breathing rates at home is recommended to screen for progression in the future. Mild activity restriction is advised. Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

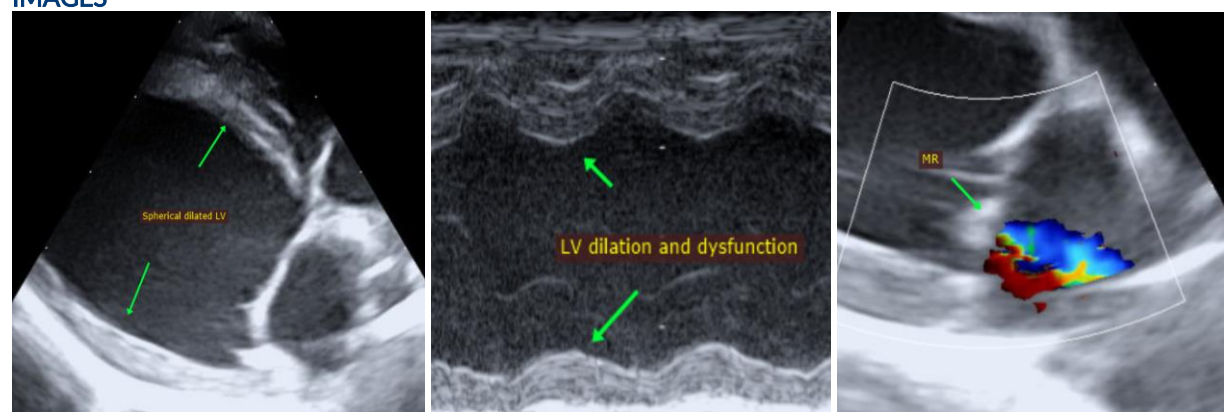
Once on the medication for 3-5 days, anesthetic risk is considered moderate if needed. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, 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

Institute Pimobendan 0.25-0.3mg/kg PO q12h. A screening BP is recommended. Institute taurine supplement 500mg PO q12h. Consider thyroid panel, diet history, cTnI, taurine level as discussed.

A recheck echocardiogram is recommended in 6 months to assess for progression, sooner if

IMAGES





PATIENT

Cossette Ortiz

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

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

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