



PATIENT

Bella Warner

SPECIES

Canine

BREED

Cocker Spaniel

SEX

Female Spayed

AGE

13 years

WEIGHT

22.2lbs; 10.1kgs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Melissa Weisman, DVM

HOSPITAL NAME

Minnesota Veterinary
Ultrasound

REFERRING VET

Dr. Weisman

INVOICE

28257

DATE

1/11/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. Increased episodes of lethargy, weakness over last month.
-Radiographs: Show enlarged, globoid cardiac silhouette.
-Current medication: Enacard 2.5mg - 1/2T PO BID and Furosemide 12.5mg - 1.5T PO SID. Patient received 0.1mg/kg butorphanol IV for this study and was placed on mask O2 during the echo.
-Pertinent previous echo findings (7/2022 MVU): LA: 3.2, LA/AO: 2.3.

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

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is thickened with mild prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. There is severe left atrial enlargement. There is moderate left ventricular dilation. Left ventricular systolic function is hyperdynamic. There is normal systolic flow velocity across the aortic valve. The aortic valve appears thickened yet trileaflet with normal mobility. The main pulmonary artery is mildly dilated. Mild to moderate right atrial and ventricular dilation. The tricuspid valve is thickened with moderate tricuspid regurgitation. Velocity consistent with mild to moderate pulmonary hypertension. No pulmonic or aortic insufficiency. Scant pericardial effusion. No pleural effusion identified. No 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	NM	3.4	NM	2.7	47	79	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	1.1	0.7	10.1	3.4	4.3	2.3
*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)
				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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with evidence of progression. Severe mitral and moderate tricuspid regurgitation is identified. Severe left atrial and ventricular dilation indicates the risk for spontaneous left-sided congestive heart failure is elevated. Additionally, there is mild right heart enlargement with mild to moderate pulmonary hypertension, which puts the patient at risk for right-sided congestion, and/or syncope.

Given the degree of structural disease in addition to scant pericardial effusion, the diagnosis is right-sided CHF and life-long cardiac supportive medications are recommended as below. A baseline ECG and blood pressure are recommended, in addition to repeat radiographs if the symptoms persist despite therapy. It is assumed that syncope is due to compromised cardiac output; however, pulmonary hypertension should also be considered. If the episodes persists despite treatment as below, Sildenafil should also be utilized.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a worsening cough, labored breathing, exercise intolerance or worsening collapse episodes. Monitoring of sleeping breathing rates is recommended as the best way to screen for progression to CHF at home. Unfortunately, there is high risk for spontaneous CHF, worsening cough and/or malignant arrhythmias and sudden death in the future. The prognosis with this degree of disease is poor, with most dogs able to maintain a good QOL on medications for an average of 8-12 months.

Elective anesthesia is not advised.

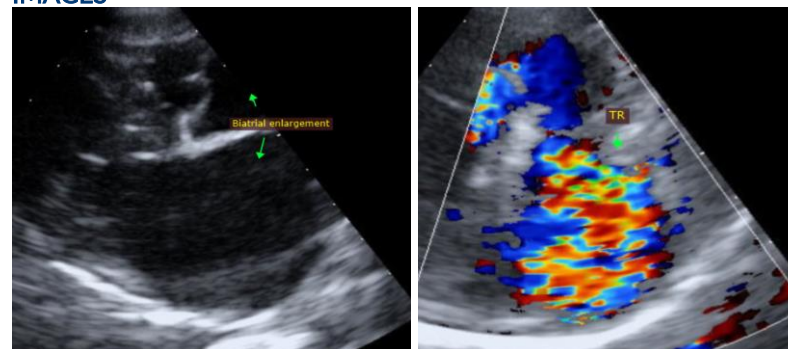
PLAN

Initiate spironolactone 1-2mg/kg PO q12h. Increase Lasix to 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12h. Recommend baseline ECG as discussed. Pending BP >130mmHg, continue Enalapril 0.5mg/kg PO q12h. If hypotensive, discontinued.

Recheck renal values and BP in 1-2 weeks, then every 3-4 months on diuretic therapy. If exertional syncope persists, institute Sildenafil 1-2mg/kg PO q12h.

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

IMAGES





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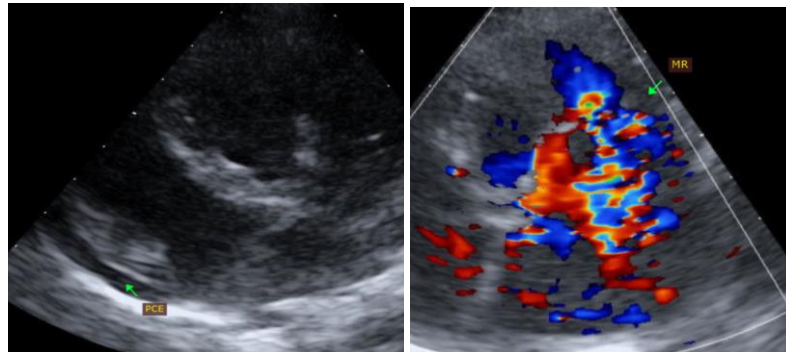
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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