

PATIENT

Biscuit Mcferron

SPECIES

Canine

BREED

Havanese

SEX

Male Neutered

AGE

10 years

WEIGHT

14.5lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

**IMAGING
PERFORMED BY**

Jenna Walsh, CVT

HOSPITAL NAME

Liberty Animal
Hospital

REFERRING VET

Dr. Paoletti

INVOICE

21424

DATE

10/7/21

PRESENTING CLINICAL SIGNS

History: Increased HR, murmur both sides; inc RE. Tachycardia
BP: 151/135/140, 105/53/70 9/22/2021mmHg.
Current Medications Vetmedin 1.25mg, Enalapril 5mg, Furosemide 20mg.
-Radiographs: Cardiomegaly, increased density caudal lungs, elevation of carina.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
Severe cardiomegaly. Evidence of left-sided 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, 5mm/mV. The average heart rate is 90bpm (range 75-110bpm).
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.

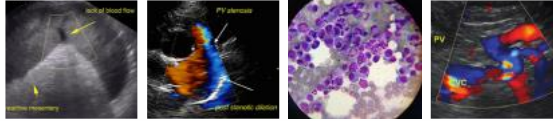
ECHOCARDIOGRAM FINDINGS

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 severe eccentric mitral regurgitation present. The MR velocity is normal. There is marked left atrial enlargement. There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. Mild RA and ventricular dilation (subjective). Mild thickening of the tricuspid valve with mild TR. Velocity consistent with mild PAH. 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. 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	3.2	2.2	2.4	55	81	0.21
OANINE 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	145	1.2	0.8	6.6	3.5	4.0	1.9
*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)
				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
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435



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Hansson et al, Vet Rad and Ultrasound 2002 Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995	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 causing severe mitral and mild tricuspid regurgitation. The LA is significantly dilated indicating a high risk for clinical signs going forward. Early PAH is noted, which is likely due to chronic LA pressure elevation and active congestion. No additional concurrent issues such as pulmonary hypertension or systolic dysfunction are documented. The ECG is unremarkable with a normal sinus rhythm.

With this degree of left heart changes, the clinical signs and CXR findings certainly support CHF and lifelong cardiac supportive medications are indicated as below. Hospitalization should be considered if the patient is unstable. Assessment of progression in the future will help predict long term outcome, however prognosis is poor at this stage (C). Unfortunately the patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Close monitoring for development of associated clinical signs (development of a cough, labored breathing, exercise intolerance or worsening collapse episodes) is recommended. **Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.**

Elective anesthesia is not advised.

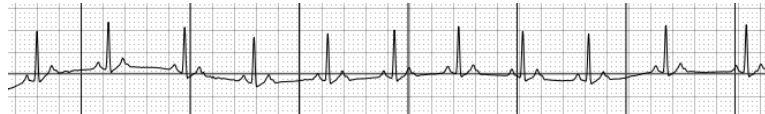
Omega fatty acid supplementation and mild salt restriction may also be of some long term benefit.

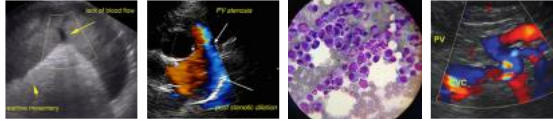
Plan: Consider hospitalization if indicated. Oral medications: Institute Lasix 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h.

Monitor renal values/BP in 1-2 weeks, then every 3-4 months lifelong to ensure tolerance of medications. If BP >130mmHg and patient is doing well at home, continue ACEI 0.5mg/kg PO q12h.

A recheck echocardiogram is recommended in 4-6 months to screen for progression, sooner if clinical signs arise.

IMAGES





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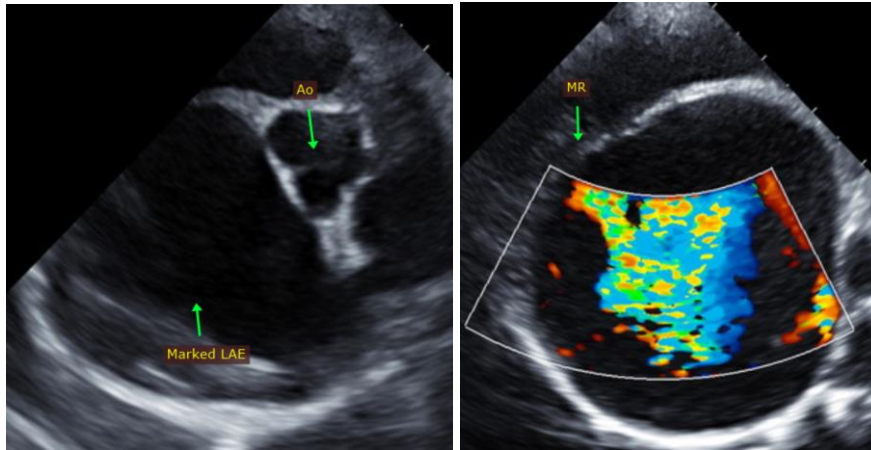
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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 info@sonopath.com