



PATIENT

Teirney Mcgee

SPECIES

Canine

BREED

Maltese mix

SEX

Female Spayed

AGE

14 years

WEIGHT

9.4lbs

INTERPRETED BY

Maggie Machen
 Lamy, DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

H & H Veterinary
 Care

REFERRING VET

Dr. Henery

INVOICE

24392

DATE

5/24/22

PRESENTING CLINICAL SIGNS

History: Grade 1-2/6 heart murmur.
 -Current Medications: 12.5mg Furosemide, 5mg Sildenafil.
 -Blood pressure: 139mmHg.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
 Mild cardiomegaly. No obvious evidence of 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, 10mm/mV. The average heart rate is 120bpm (range 100-150bpm). 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.

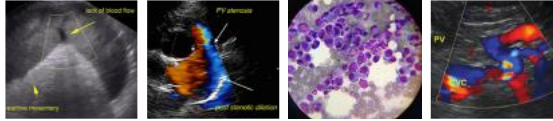
ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with no left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears thickened and prolapsing with moderate tricuspid regurgitation. TR velocity consistent with mild to moderate pulmonary hypertension. Mild right atrial and ventricular prominence. MPA is mildly dilated. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

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	6.0	3.4	1.2	1.2	63	93	0.1
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	136	0.93	0.8	4.3	1.4	1.3	0.5
*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)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)

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



PATIENT

Teirney Mcgee

Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995	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)

SPECIES

Canine

BREED

Maltese mix

SEX

Female Spayed

AGE

14 years

WEIGHT

9.4lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

H & H Veterinary
Care

REFERRING VET

Dr. Henery

INVOICE

24392

DATE

5/24/22

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing mild mitral and moderate tricuspid regurgitation. Lack of left atrial enlargement indicates the current risk for spontaneous congestive heart failure is low. Moderate TR with moderate pulmonary hypertension is also documented, despite no reported symptoms. The right heart and MPA support this finding, with early compensatory changes identified. No additional issues are identified. The ECG is unremarkable with a normal sinus rhythm.

The underlying genesis of PAH is poorly understood in cases other than heartworm infestation, though it occurs with increased frequency in a variety of forms of chronic lung disease and in patients with idiopathic pulmonary fibrosis. Primary PAH is also possible in certain breeds as well. All possibilities should be considered without a respiratory history provided. If not performed, a heartworm antigen test is highly recommended.

Given the combination of right heart enlargement and mild to moderate pulmonary arterial hypertension, reasonable to continue Sildenafil in this patient as below. Lasix is certainly not indicated as primary respiratory disease is origin of any respiratory signs. It is important to note that a cough is not caused by pulmonary hypertension, rather the inverse is true. Primary respiratory therapy may be warranted, depending on clinical sings. Prognosis is guarded given the combination of issues, and patient will always be at risk for progression to right or left-sided CHF, development of arrhythmias, collapse, etc. going forward.

Anesthetic risk is considered mildly elevated. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. **Pre-oxygenate 5-10 minutes prior to induction.** 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.

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.

PLAN

Baseline BP recommended. Discontinue Lasix as discussed. Continue Sildenafil 1-2mg/kg PO q12h. Consider respiratory therapy if warranted as discussed.

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



PATIENT

Teirney Mcgee

SPECIES

Canine

BREED

Maltese mix

SEX

Female Spayed

AGE

14 years

WEIGHT

9.4lbs

INTERPRETED BY

Maggie Machen
 Lamy, DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

H & H Veterinary
 Care

REFERRING VET

Dr. Henery

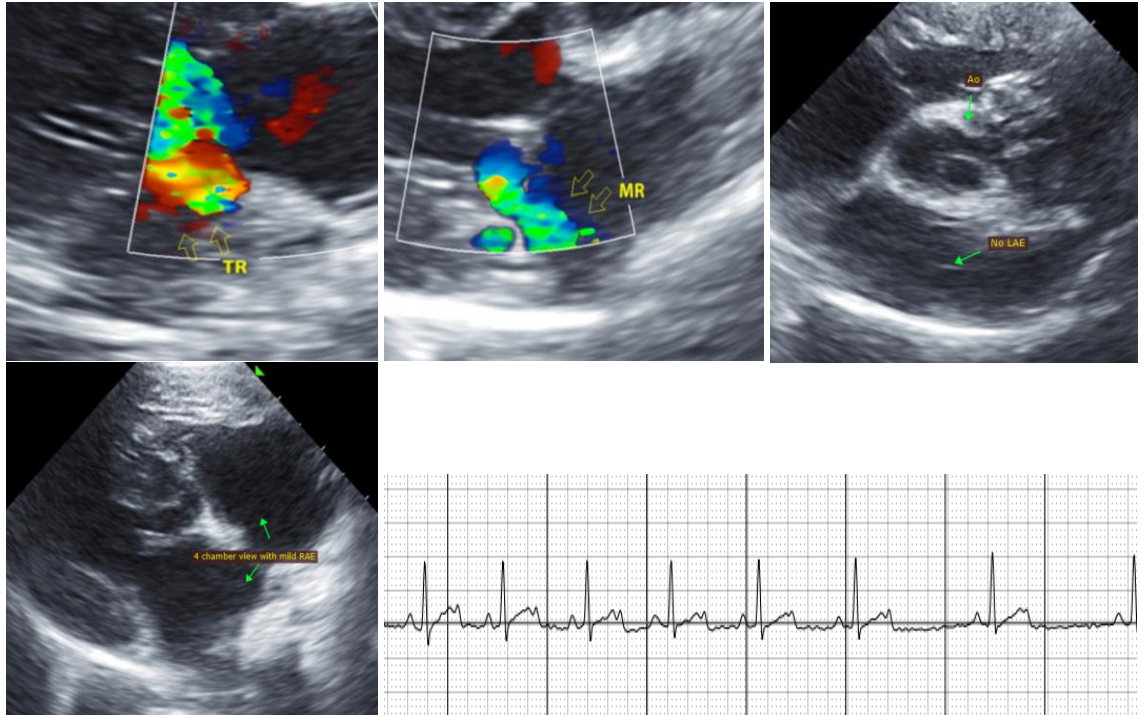
INVOICE

24392

DATE

5/24/22

IMAGES



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