



PATIENT

Cookie Romero

SPECIES

Canine

BREED

Minature Pinscher

SEX

Female Spayed

AGE

Geriatric

WEIGHT

7.5lbs

INTERPRETED BY

Maggie Machen Lamy,
 DVM, DACVIM
 (Cardiology)

IMAGING PERFORMED BY

Loetitia St-Jacques,
 LVT/RVT

HOSPITAL NAME

Roundhill Animal
 Hospital

REFERRING VET

Dr. Kelly

INVOICE

22563

DATE

2/14/22

PRESENTING CLINICAL SIGNS

History: Hacking/cough for the past 2 weeks. Some lethargy. Constant cough on initial exam. Murmur appreciated. BP; 129-154mmHg. Improved on medications.
 -CXR: Concerning for mild edema and cardiomegaly. Some concern for PAH.
 -Current medications prescribed 2/8/22: Pimobendan 1.875mg - 1/2 tab PO BID, Furosemide 10 mg/ml - 0.8 mL PO BID, Biomox drops 50mg/mL - 1 mL PO BID, Hydrocodone 1 mg/mL - 0.5 to 1.5 mL PO SID-QID, mostly at night to control cough.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve is markedly thickened (ant>>post) with significant prolapse into the left atrial lumen. A flail leaflet is visualized. A ruptured chordae tendineae is visualized. There is severe 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 trileaflet with normal mobility. No AI. The main pulmonary artery is normal in size. Normal right atrial and right ventricular dimensions. The tricuspid valve is mildly thickened with trace tricuspid regurgitation. No velocity. 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	5.6	2.9	NM	2.5	58	92	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	0.8	NM	3.4	2.7	3.3	1.4
*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



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valve disease causing severe mitral and trace tricuspid regurgitation. Severe left atrial and moderate ventricular enlargement confers an elevated risk for spontaneous congestive heart failure. The finding of a ruptured chordae tendineae dramatically raises this risk. No additional issues such as pulmonary hypertension or systolic dysfunction are identified.

A cough in a patient with this degree of heart disease is likely multifactorial in origin with concern for CHF based upon the reported radiographic abnormalities. Recommend continue full cardiac support as below. If the cough persists despite institution of diuretic therapy, more aggressive hydrocodone may be indicated for a mechanical component.

Long term prognosis is guarded to poor; however, most patients are able to do well on medications for some time (average 8-12 months) once in CHF. A chordal rupture does not necessarily change prognosis, assuming the patient is able to be stabilized through the initial event. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future. Monitoring of sleeping breathing rates is recommended as the best way to screen for recurrent CHF at home.

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 collapse episodes. Elective anesthesia is not advised.

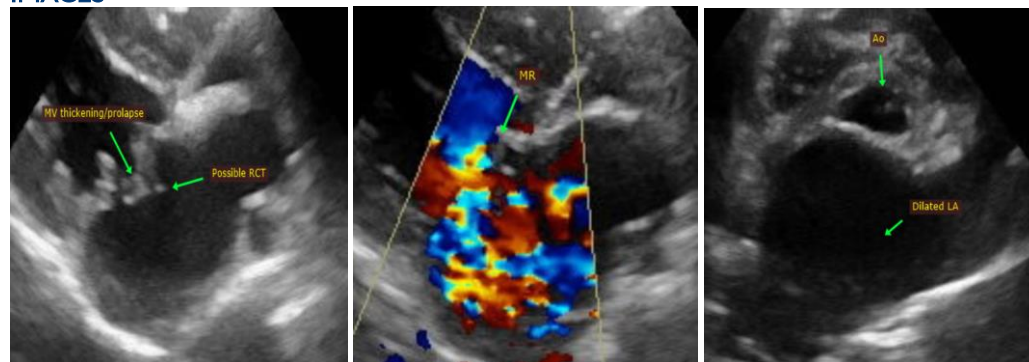
PLAN

Administer Lasix/furosemide 1-2 mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Administer Pimobendan 0.3mg/kg PO q12h.

A renal panel and BP are recommended in 10-14 days following the above medication changes, then every 3-4 months lifelong on diuretics. If doing well and BP is >130mmHg, consider ACE-I 0.5mg/kg PO q12h. If cough persists and RR is normal, consider addition of hydrocodone with homatropine if needed for QOL (0.2-0.4mg/kg up to q4-6h PRN).

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

IMAGES





Portable Animal Western Sonography, Inc.

IMAGING PERFORMED BY

pawsonography@gmail.com  530-786-8340

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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.

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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