

PATIENT

Copper Hammett

SPECIES

Canine

BREED

Beagle Mix

SEX

Female Spayed

AGE

12 years

WEIGHT

63.4lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Jessica Bailes

HOSPITAL NAME

All Creatures Great &
Small Veterinary
Clinic

REFERRING VET

Dr. Sadahiro

INVOICE

26263

DATE

9/8/22

PRESENTING CLINICAL SIGNS

History: Chronic cough since 8/2020; thoracic rads at that time showed significant cardiomegaly. Echo performed (8/2020 EL): mild cor pulmonale, minor mitral valve insufficiency, early stage B1 valvular disease, Cough was considered to be non - cardiogenic at that time. Has had several rounds of doxycycline; eventually was placed on pred and cough improved dramatically. Had to D/C pred and start NSAIDs for analgesia since patient developed CCLR (discontinued pred 6/2022). Presented 8/29/22 for worsening cough - arrhythmia ausculted on exam; on ECG runs of VPC's and accelerated ventricular rhythm noted. Patient also developed near syncopal episodes while in hospital. Symptoms improved/resolved w/ oxygen, furosemide and butorphanol. Was transferred to local ER clinic for continued stabilization - went home the next morning. Started on furosemide 50mg PO BID, vetmedin 7.5mg PO BID.

-Abnormal PE/Chem/CBC/UA Results: BW performed 8/29/22: increased ALP (865), mild hyperkalemia (5.9), otherwise NSF. BP: 160mmHg. Thoracic rads taken 8/29: concerning for CHF Patient started coughing again last night; presented this morning in respiratory distress. IVC placed - resolved with furosemide 2mg/kg IV bolus but intermittent coughing fits noted.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. Serial films are included (8/29, 8/30 & 9/8/22): Mild cardiomegaly without CHF (minimal difference between films).

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; 25mm/s, 10mm/mV. The average heart rate is 150bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. A single VPC is noted. No supraventricular premature beats, pauses or other dysrhythmias observed.

ECG diagnosis: Normal sinus rhythm with an isolated VPC.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with minimal prolapse into the left atrial lumen. Mild to moderate eccentric mitral regurgitation with mild to moderate left atrial dilation. Normal MR velocity. Borderline LV dilation with adequate myocardial function. The tricuspid valve appears mildly thickened with mild septal prolapse and trace tricuspid regurgitation. Mild right heart prominence, suggestive of early pulmonary hypertension. 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.



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CARDIAC CHART

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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	1.4	1.5	49	80	0.7
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	1.7	1.0	28.8	2.8	4.4	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)
<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)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists as was previously described. Mild to moderate mitral and trace tricuspid regurgitation are largely unchanged with mild left heart enlargement. Early pulmonary hypertension is suspected, based upon the right heart. No additional are noted in this study.

These findings, in addition to the included chest radiographs, are inconsistent with the diagnosis of CHF. Unless a Radiologist review of the films documented pulmonary edema, Lasix is not clearly warranted in this case. Given the unusual presentation and early pulmonary hypertension, reasonable to continue Pimobendan at this time. Further pulmonary evaluation may be warranted should the symptoms reoccur.

A single VPC is noted on the screening ECG. This is likely secondary to stress and some degree of underlying heart disease; however, other possibilities should be considered. The sustained arrhythmias noted during hospitalization are certainly more concerning; however, difficult to comment on without an ECG to evaluate. Based upon what is seen here, no treatment is warranted at this time. Consider a holter monitor, certainly if any syncope develops in the future.

Anesthetic risk is considered mild 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.



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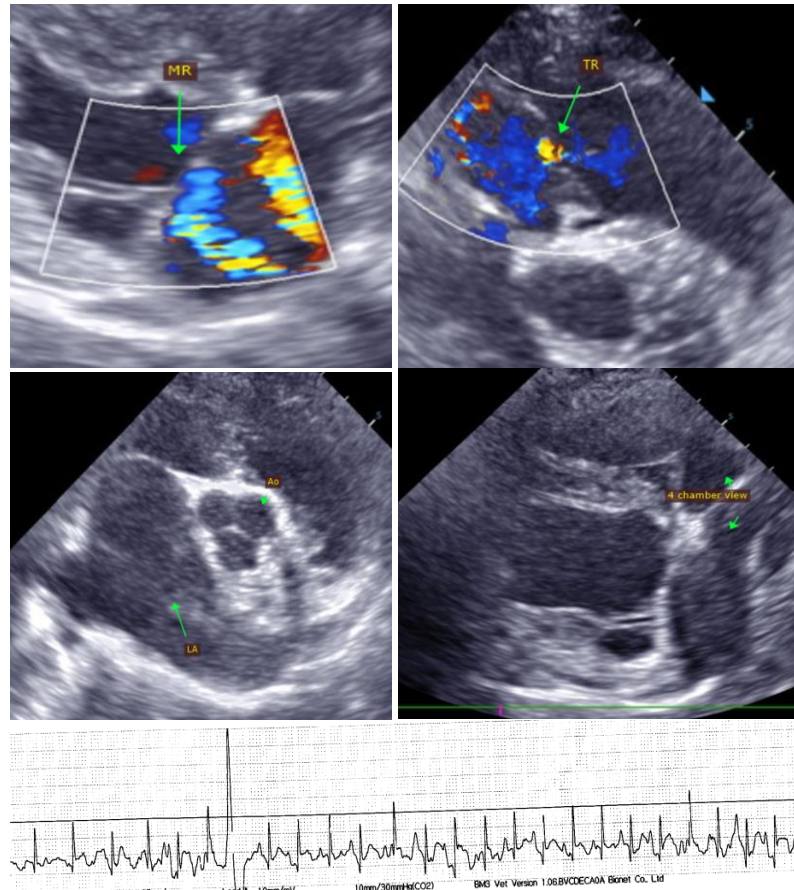
9/8/22

PLAN

Discontinue Lasix as discussed. Continue Pimobendan 0.3mg/kg PO q12h. Consider further systemic/respiratory work-up should symptoms reoccur. Consider a holter monitor as discussed.

Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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
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