PATIENT

Shaka Kramer

SPECIES

Canine

BREED

Malamute Mix

SEX

Intact Male

AGE

2015

WEIGHT

22.65 kg

INTERPRETED BY

James Wood, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Roundhill AH

REFERRING VET

Dr. Carl Kelly

INVOICE

37210

DATE

5/25/26

PRESENTING CLINICAL SIGNS

History: Anxious dog- LPS views done standing as stressful to place lateral. Presented in April for ear issues. At this time noticed an irregular rhythm and occasional pulse deficit. Heart rate ranges from 120-140. No murmur. Definite arrhythmia with probable PVCs associated with pulse deficit. Temporal poulse is strong when present. Blood pressure is 180/147, Severe ataxia and mobility issues. Current medications: 15mg Librela SQ/once a month. Attached bloodwork.

Abnormal PE/Chem/CBC/UA Results: ECG abnormal- attached LABS attached

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

CANINE CARDIAC PARAMETERS	**LA long axis**	**LAmaxN**	**Ao long axis**	**LA/AO (Heart Base; Swe, short axis)**	**LA/AO long axis**	**LVIDd**	**LVIDdN**
NORMAL PARAMETER		<1.57		<1.6	<2.5		<1.7
PATIENT	3.89	1.49	1.7	1.33	2.29	4.13	1.54
CARDIAC PARAMETERS	**Body Weight (kg)**	**AV VMAX (m/s)**	**PV MAX (m/s)**	**MR VMAX (m/s)**	**TR VMAX (m/s)**	**FS (%)**	**LVIDsN**
NORMAL PARAMETER		0.7-1.7	0.7-1.6			22 - 49%	<0.9
PATIENT	22.65	1.44	1.04	5.92	2.94	33.9	0.8
CARDIAC PARAMETERS	**HR (bpm)**	**MV E (m/s)**	**MV A (m/s)**	**MV E/A (m/s)**	**EF (%)**	**IVSdN**	**LVFWdN**
NORMAL PARAMETER						<0.6	<0.6
PATIENT	200-220	--	--	--	--	0.44	0.44

ECG Interpretation

A six lead ECG was reviewed. The underlying rhythm is atrial fibrillation. The average ventricular response rate ranges between 200 - 220 bpm. Some complexes occasionally appear wider. These may reflect single VPCs versus phase 3 aberrancy (Ashman's phenomenon).

Cardiac Presentation

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The mitral valve leaflets are mildly thickened with mild central mitral valve regurgitation. There is no prolapse of the mitral valve leaflets. The left atrial size is normal. Left ventricular internal dimensions during diastole are within normal limits and the global left ventricular systolic function is normal. There is severe right atrial enlargement. The tricuspid valve is mildly to moderately thickened. There is moderate to severe central tricuspid valve insufficiency. There is no prolapse of the tricuspid valve leaflets. There is subjectively mild right ventricular dilation. The estimated right ventricular systolic pressure is mildly elevated assuming a right atrial pressure of approximately 10 mmHg. The aortic and pulmonary valves have normal appearance and motion, and the corresponding outflow velocities are within normal limits. There is no evidence of pulmonary or aortic valve insufficiency. The aorta appears normal. The pulmonary artery and associated branches appear normal. There is no evidence of pleural effusion, pericardial effusion, or intracardiac masses. There is no abdominal effusion in the included abdomen, though the hepatic veins were subjectively mildly dilated.

ULTRASONOGRAPHIC FINDINGS

- Myxomatous mitral valve disease, ACVIM stage B1
- Severe tricuspid valve insufficiency with severe right atrial enlargement – suspect endocardiosis
- Atrial fibrillation with a rapid ventricular response rate
- Mild pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram reveals mild mitral valve disease without significant left-sided chamber enlargement. The most striking finding is tricuspid valve thickening, moderate to severe tricuspid insufficiency, and severe right atrial enlargement. There is no evidence of peritoneal effusion on the included study, but a more thorough assessment of the abdomen is reasonable given the degree of right atrial enlargement and hepatic venous dilation. If no peritoneal effusion is present and the dog is asymptomatic at home, furosemide is not necessary at this time. However, given the degree of chamber enlargement, Pimobendan is recommended at 0.25 - 0.3 mg/kg PO Q12.

The atrial fibrillation with a rapid ventricular response rate warrants antiarrhythmic treatment to achieve adequate rate control. A target of an average heart rate of 160 bpm in hospital is optimal. Diltiazem is recommended at a dose of 30 mg PO Q8 hours of the standard release formulation (not the extended release). Recheck ECG in 1-2 weeks or sooner if concerns arise to assess rate control. The dose may be titrated upward to achieve this target heart rate.

While the valve changes to the mitral and tricuspid valves are suspected to be due to degenerative valve disease, if there is clinical suspicion for endocarditis (i.e., lethargy, hyporexia, fever, inflammatory leukogram etc.), endocarditis cannot be fully excluded based on this study. If this is suspected, consider blood cultures and a troponin.

Monitoring

It is very important to catch any clinical signs concerning for emerging CHF as early as possible. The client should be closely monitoring and ideally tracking the sleeping respiratory rate. The sleeping RR should be between 10-30 breaths per minute or less (ideally in the teens or low 20s). **If the resting**

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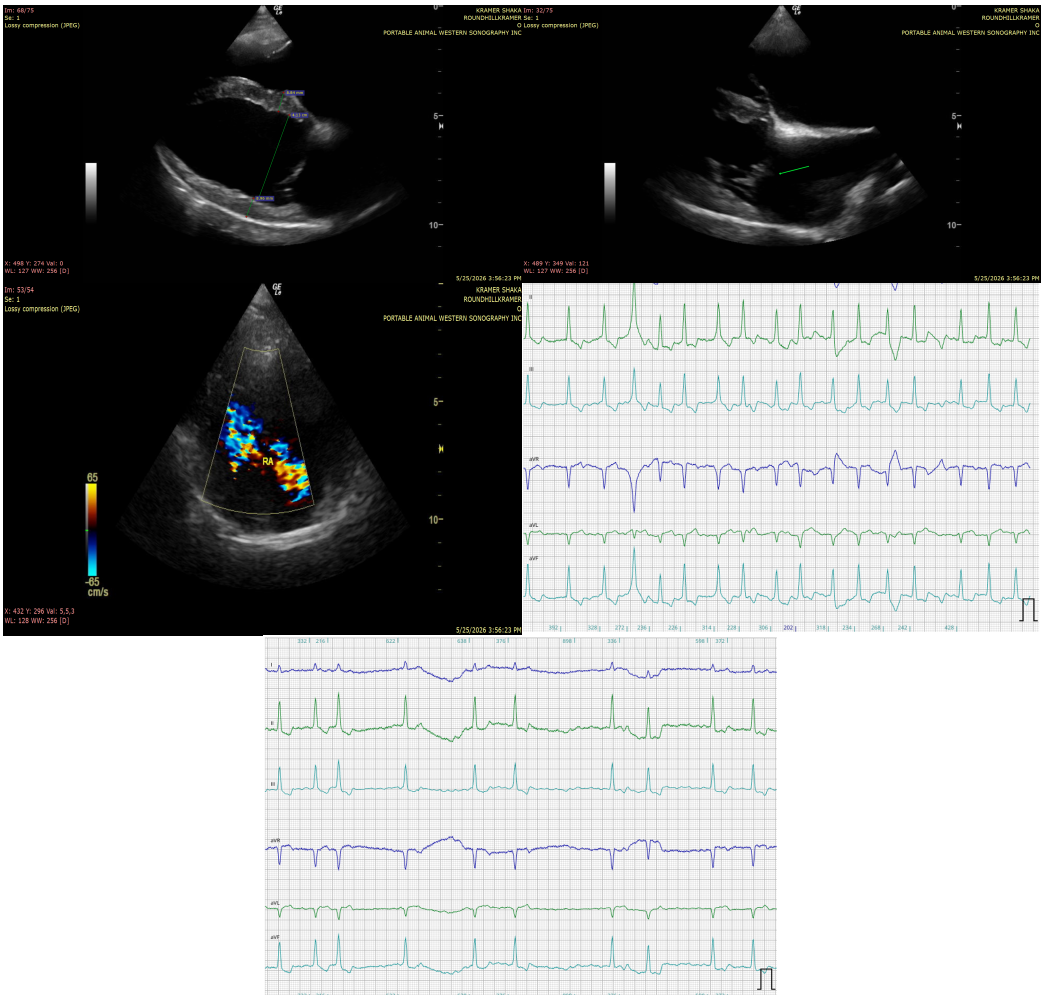
RR is trending upward, consistently>35/min while resting/sleeping AND/OR there is a new or progressive cough, the patient should be seen urgent for evaluation to determine if CHF is developing. *RECHECK ASAP for thoracic radiographs if there is a new cough or increase in RR to detect early CHF and avoid ER presentation**

Sodium Restriction

Moderate sodium restriction may be beneficial in managing this stage of cardiac disease. High-salt treats or diets should be avoided. If interested, further information on moderate sodium restricted diets for dogs with advanced cardiac disease can be found at: https://heartsmart.vet.tufts.edu/nutrition/.

Recheck in 4-6 months after adequate rate control or sooner if concerns arise.



The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology

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that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

James Wood, DVM, DACVIM (Cardiology)

info@SonoPath.com