



PATIENT

Stella Cudnohufsky

SPECIES

Canine

BREED

Australian Cattle Dog

SEX

Female Spayed

AGE

16 years

WEIGHT

46.4lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Mass Veterinary Services

REFERRING VET

Dr. Masloski

INVOICE

24655

DATE

6/8/22

PRESENTING CLINICAL SIGNS

History: Stella is referred to evaluate a heart murmur. She started having collapse episodes a few years ago but they have become much more frequent (two events yesterday, one today). Stella is presently eating well (raw diet) and wants to be active, but her activity is being restricted due to the collapse events. On exam: arrhythmia, grade III/VI murmur with PMI left apical area, PSS, lung fields clear. BP 180 mmHg x 5 (stressed). No medications. *No sedated for study (very stressed during exam).

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.

Left ventricle: The LV diameter is normal with adequate myocardial function. Subtle septal flattening in systole. LV wall thicknesses are normal.

Left atrium: The left atrium is mildly dilated.

Mitral valve: The mitral valve is mildly thickened with no prolapse into the left atrial lumen. Moderate anterior-directed mitral regurgitation with a normal velocity.

Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency. MPA is mildly dilated.

Right ventricle: Mild to moderate right ventricular enlargement with hypertrophy.

Right atrium: Mild RA enlargement.

Tricuspid valve: The tricuspid valve appears mildly thickened with mild septal prolapse and moderate tricuspid regurgitation. Velocity consistent with pulmonary hypertension.

Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.

Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

Heart rhythm: ECG reveals a sinus rhythm with an average HR of 110bpm.

2-Dimensional Measurements

Ao diam (cm)	1.9
LA diam (cm)	2.2
LA:Ao (Swe)	1.2
IVS thickness (cm)	0.8
LVID diastole (cm)	3.0
PW thickness (cm)	0.8
LVID systole (cm)	1.8
FS (%)	40

Doppler Measurements

PV Vmax (m/s)	0.4
AoV Vmax (m/s)	1.0
MR Vmax (m/s)	4.7
TR Vmax (m/s)	2.9
TR PG (mmHg)	33

INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease causing moderate mitral and tricuspid regurgitation. Mild left heart dimensions indicates the risk for left-sided spontaneous congestive heart failure is currently low. More importantly at this juncture is there is evidence of moderate pulmonary hypertension (PAH) present, as evidenced by compensatory right heart changes. The estimated systolic pulmonary arterial pressure is 50mmHg, with normal being <25mmHg. This is based upon the appearance of the right heart as the TR velocity is suspected to be an underestimation. This is causing right heart enlargement. No additional issues are identified. No evidence of diet-related cardiomyopathy; however, a diet change remains the conservative recommendation.



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Clinical signs of weakness, heavy breathing, cyanosis, and syncope are attributed to severe PAH. 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. If not performed, a heartworm antigen test is always recommended.

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Without a chronic respiratory history, the cause of pulmonary hypertension remains open. Patients with severe PAH can eventually develop right-sided congestive heart failure (ascites), debilitating cyanosis and labored breathing and exertional syncope if poorly controlled.

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Collapse episodes may or may not be related, depending on the situational component. If they are always exertional in origin, these findings may be related, and medications may help. No obvious arrhythmias are appreciated on this exam; however, if the episodes persists despite medical therapy, a holter monitor is recommended. Use of Sildenafil and Pimobendan is recommended as below.

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RECOMMENDATIONS

- Administer Pimobendan 0.3mg/kg PO q12j.
- Administer Sildenafil 1-2mg/kg PO q12h.
- If the episodes persist despite therapy, a holter monitor is recommended.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- 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.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

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PLAN

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

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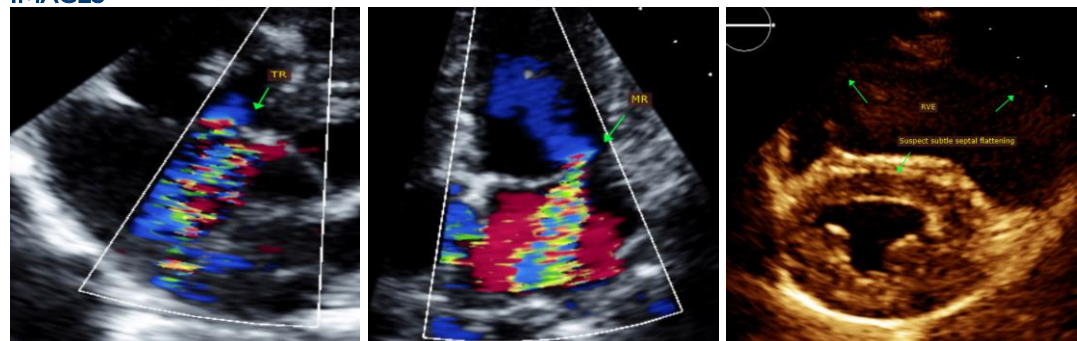
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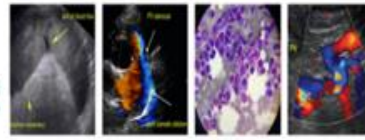
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IMAGES





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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.

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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.

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Australian Cattle Dog

Maggie Machen Lamy, DVM
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Echocardiogram performed by: Pamela Harrigan, RDCS
Pet Animal Ultrasound Service (4paus.com)

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