



**PATIENT**

Vinnie Kane

**SPECIES**

Canine

**BREED**

Havanese

**SEX**

Male Neutered

**AGE**

16 years

**WEIGHT**

4.4lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM  
DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Pamela Harrigan,  
RDCS

**HOSPITAL NAME**

Wignall Animal  
Hospital

**REFERRING VET**

Dr. Colella

**INVOICE**

27254

**DATE**

11/3/22

**PRESENTING CLINICAL SIGNS**

History: Grade V/VI heart murmur. Coughing. Radiographs: increased interstitial pattern affecting the perihilar region R/O CHF vs bronchial pattern. Redundant tracheal membrane. Medications: Lasix 12.5mg, 1/4 t BID, Enalapril 2.5mg, 1/2 t SID, 5mg Hydrocodone Bitartrate oral syrup with homatropine (1.5mg) - 0.4 ml PO q6-12h prn.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and Doppler imaging is available.  
**Left ventricle:** The LV diameter is mildly increased with hyperdynamic function. LV wall thicknesses are normal. Subtle septal flattening in systole.  
**Left atrium:** The left atrium and auricle are moderately dilated.  
**Mitral valve:** The mitral valve is diffusely thickened with prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with a normal velocity.  
**Aortic valve/Aorta:** The aortic valve is asymmetrically thickened. Normal aortic outflow velocity; laminar flow. Moderate to severe aortic insufficiency.  
**Right ventricle:** The right ventricle is moderately dilated with mild hypertrophy.  
**Right atrium:** Mild to moderate RA dilation. No evidence of tamponade.  
**Tricuspid valve:** The tricuspid valve appears thickened with moderate to severe tricuspid regurgitation. Velocity consistent with severe pulmonary hypertension.  
**Pulmonic valve/Pulmonary artery:** The pulmonic valve is normal in morphology and mobility. The pulmonary artery and branches are dilated. Mild pulmonic insufficiency. Normal RVOT velocity; laminar flow.  
**Pericardium/other:** Scant pericardial effusion suspected. No pleural effusion seen. No obvious cardiac masses.  
**Heart rhythm:** ECG reveals a sinus rhythm with an average HR of 180bpm.

**2-Dimensional Measurements**

Ao diam (cm)	1.1
LA diam (cm)	1.9
LA:Ao (Swe)	1.8
IVS thickness (cm)	0.5
LVID diastole (cm)	2.5
PW thickness (cm)	0.5
LVID systole (cm)	0.8
FS (%)	69

**Doppler Measurements**

PV Vmax (m/s)	0.5
AoV Vmax (m/s)	1.2
MR Vmax (m/s)	5.5
TR Vmax (m/s)	4.5
TR PG (mmHg)	80

**INTERPRETATION OF THE FINDINGS**

Chronic degenerative valve disease causing moderate mitral and moderate to severe tricuspid regurgitation is identified. Moderate left heart enlargement indicates the risk for left-sided congestive heart failure is relatively low. That being said, there is severe pulmonary hypertension present, which puts the patient at risk for right-sided congestion, and/or syncope. This likely explains early pericardial effusion. Finally, there is a significant aortic leak and blood pressure monitoring is strongly recommended. No additional issues are identified.

Given these findings, the cough is likely multi-factorial in origin. Recommend cover all basis in this case, given the severity of the findings in a senior dog. This includes diuretic therapy, Hydrocodone and potentially broad-spectrum antibiotic coverage, depending on



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response. Sildenafil is recommended as well and further vasodilation may be warranted pending BP assessment.

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Given severity of disease, consider hospitalization for supportive care if the patient appears or becomes unstable. Careful attention to renal values must be stressed in a senior patient as well. It should be noted that even if we are able to stabilize this patient, the prognosis is poor to grave long term, with a predicted survival time of <6 months.

**BREED**

Havanese

Patient will always be at high risk for spontaneous biventricular CHF, LA tear, progressive cough and/or malignant arrhythmias/sudden death in the future.

**RECOMMENDATIONS**

**SEX**

Male Neutered

- Consider hospitalization for stabilization if indicated.

- Continue Furosemide 1mg/kg PO q12h.

- Institute Pimobendan 0.3mg/kg PO q12h.

- Institute Spironolactone 1-2mg/kg PO q12h.

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- Institute Sildenafil 1-2mg/kg PO q8h.

- If the cough does not respond significantly, consider coverage with a broad-spectrum antibiotic.

- A BP is recommended with additional vasodilator therapy if warranted.

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- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

- Elective anesthesia is not advised.

- Strict activity restriction.

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- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

**PLAN**

- Recheck renal values and BP in 1-2 weeks, then every 3-4 months on diuretic therapy.

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

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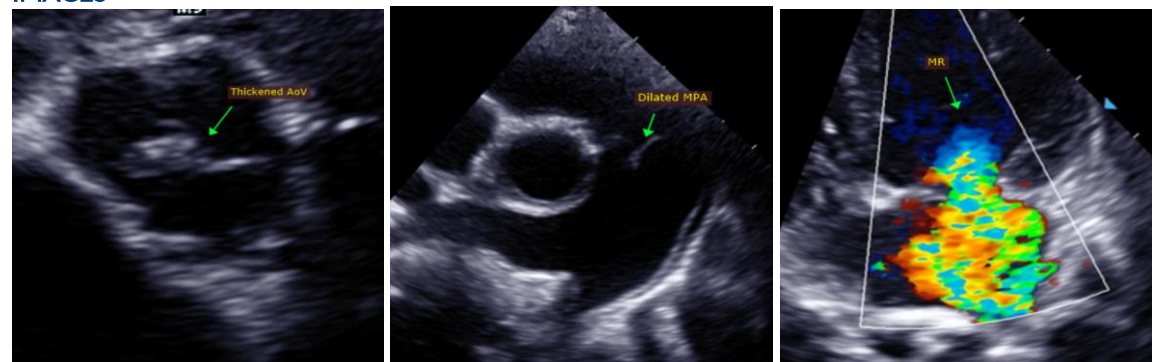
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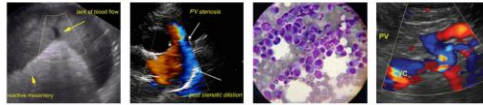
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**IMAGES**





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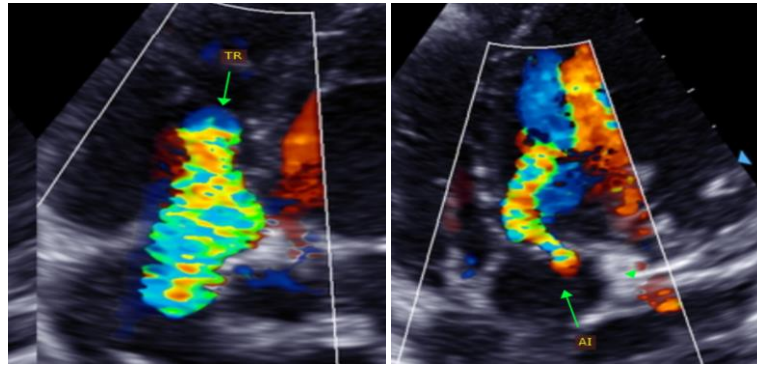
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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