



**PATIENT**

Scout Robinson

**SPECIES**

Canine

**BREED**

Terrier Mix

**SEX**

Female Spayed

**AGE**

14.11 years

**WEIGHT**

17.2lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Carey Zumpano, DVM

**HOSPITAL NAME**

Pikesville Animal  
Hospital

**REFERRING VET**

Dr. Zumpano

**INVOICE**

47372

**DATE**

3/30/26

**PRESENTING CLINICAL SIGNS**

History: Presented 2 months prior for seizure/collapse like episode. History of IRIS Stage 2 renal disease and USMI treated with Proin. CXR at that time noted enlarged aorta. Grade 1/6 murmur noted on exam. Lab work noted azotemia and mild liver enzyme elevation. Patient has not had any other collapse episodes since. Discontinued Proin due to BP findings today.

-Abnormal PE/Chem/CBC/UA Results (2/5/26): ALT 213, ALKP 177, Creat 1.9, BUN 50. AUS showed right adrenal mass, liver changes compatible with vacuolar hepatopathy. BP 160-180mmHg. ECG: No abnormalities. HR varies from 130-180bpm during exam and ECG.

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.

Normal cardiac silhouette. No obvious evidence of CHF. Dilated aortic root and ascending AO.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Mildly thickened mitral valve leaflets with no obvious prolapse into the left atrial lumen. No MR. Normal left atrial dimension.

Decreased LV diameter with normal myocardial function. The left ventricular wall thickness is moderately increased (1.0cm) with a hyperechoic endocardium. The tricuspid valve appears subjectively normal, with no TR seen. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. The aortic outflow velocity is mildly elevated. The pulmonic outflow velocity is normal. Trace AI. No PI noted. The aortic root and ascending segment are significantly dilated. No pericardial or pleural effusion noted. No obvious cardiac tumors.

**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	NA	NA	NM	1.2	44	80	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	2.3	0.7	7.8	1.9	2.5	1.6
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				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 finding of moderate LV hypertrophy is most commonly secondary in dogs (rather than due to a primary myocardial disease), and in light of the reported blood pressure this is the likely root cause. There is supported by a dilated aortic root and ascending segment, in addition to aortic insufficiency. There may be concurrent volume issues in this patient as well, given a history of CKD, which is the cause of elevated flow velocity through the aortic root. This is a cause for a benign murmur. No additional pathology is seen.

If thought to be accurate, high blood pressure should certainly be treated in this patient going forward. This patient has reported CKD, which is the likely cause. Proin is likely not the underlying issue; however, discontinuing it is recommended. Vasodilator therapy should be dictated by IM. Proteinuria and other factors may change the treatment plan and consultation with IM is strongly recommended.

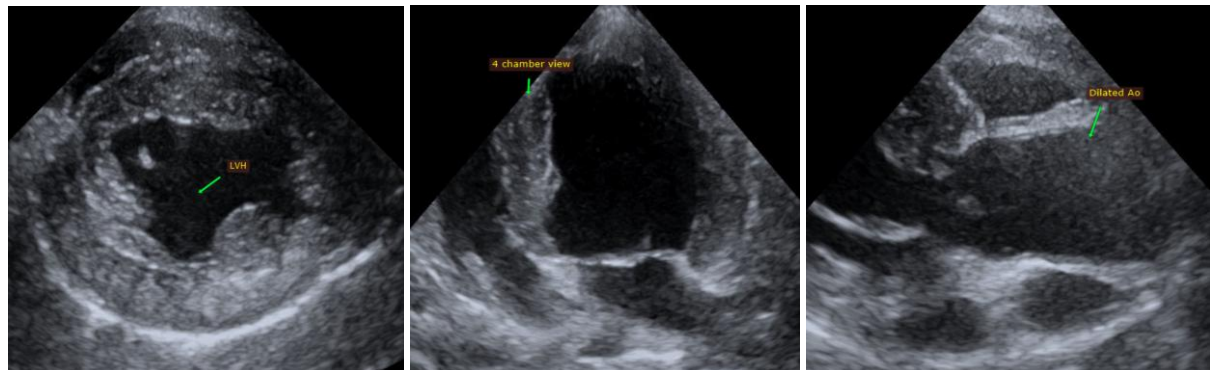
Monitor at home for collapse, exercise intolerance, and/or lethargy. Prognosis is guarded pending follow up assessment.

Anesthesia is not advised prior to stabilization of BP, reassessing volume, etc. Once the BP is normalized, reasonable to proceed with typical precautions: Cardiac protective drug choices (opioid/benzodiazepine premedication, Propofol or alfaxalone induction, iso or sevo gas) are recommended. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Judicious IV fluid rates are recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

## PLAN

Further workup and treatment for SHT should be dictated by IM. Going forward, a recheck echocardiogram is recommended in 6 months to assess for progression/regression of LV changes, sooner if any clinical signs arise.

## 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



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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**

**Diplomate of the American College of Veterinary Internal Medicine (Cardiology)**

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