



PATIENT

Pluto Hogan

SPECIES

Canine

BREED

Mix

SEX

Male Neutered

AGE

7 years

WEIGHT

66.7lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Mass Veterinary
Services

REFERRING VET

Dr. Masloski

INVOICE

23005

DATE

3/9/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Pluto had been diagnosed with and treated for HWD in May 2021. Seen in July 2021 for coughing, collapse and distended abdomen. Had ascites and was noted to be HW positive. Was treated with furosemide and spironolactone. Current presentation: Pluto is doing well but seems hungry all the time - presently on a homemade diet. His activity level is normal. On auscultation: NSR, no murmurs noted, PSS, lung fields clear. BP: 120-130mmHg.

-Current medications; 1) Lasix/furosemide 20mg 2.5 tabs twice a day 2) Spironolactone 25mg 1.5 tabs twice a day 3) Pimobendan 15mg 1/2 tab twice a day 4) Enalapril 10mg 1 1/4 tabs twice a day 5) Sildenafil 20mg 2.5 tabs twice a day *No sedation for study.

-Pertinent previous echo findings (8/2/21 Keith Blass, DVM, DACVIM): LA 3.0 cm; LA:Ao 1.2; LV 2.79 cm; TR Vmax 3.86 m/s - RVH/RVE, mild-moderate TR with pulmonary hypertension.

ECHOCARDIOGRAM FINDINGS

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

Left ventricle: The LV diameter is normal with adequate myocardial function. LV wall thicknesses are normal.

Left atrium: The left atrium is normal.

Mitral valve: The mitral valve is normal with no prolapse into the left atrial lumen. No mitral regurgitation.

Aortic valve/aorta: The aortic valve is normal. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.

Right ventricle: Mild RV enlargement with hypertrophy.

Right atrium: Mild RA enlargement.

Tricuspid valve: The tricuspid valve appears normal with trivial tricuspid regurgitation. Velocity unable to be accurately measured.

Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. MPA and branches are dilated. 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 160bpm.

2-Dimensional Measurements

Ao diam (cm)	2.1
LA diam (cm)	2.9
LA:Ao (Swe)	1.3
IVS thickness (cm)	1.0
LVID diastole (cm)	3.3
PW thickness (cm)	1.0
LVID systole (cm)	1.4
FS (%)	58

Doppler Measurements

PV Vmax (m/s)	1.2
AoV Vmax (m/s)	1.7
MR Vmax (m/s)	NA
TR Vmax (m/s)	NM
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

Compared to what is noted in the prior study, there is certainly improvement overall. Congestive heart failure has resolved, and the right heart is only mildly enlarged. The MPA remains dilated, supporting chronic hypertension. No additional issues are identified.



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Even with significant improvement seen here and a patient that is reportedly doing well at home, recommend continue full cardiac support until serial follow ups document persistent stability. Assuming HW disease was treated successfully, no additional medications are needed at this time. The best approach to managing PAH due to heartworm disease is addressing any cough/respiratory signs through cough control should it arise in the future. Monitor for signs of progressive pulmonary hypertension, including exertional dyspnea or syncope.

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Prognosis is guarded going forward; however, improvement seen here is certainly a good sign. Patient may be at risk for concurrent right-sided heart failure, development of syncopal episodes, etc. as the patient ages.

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RECOMMENDATIONS

- Continue 5 cardiac medications as prescribed.
- Monitor for signs progressive PAH (exertional dyspnea/collapse).
- 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- 12 months, if persistently stable disease and patient is doing well at home consider weaning medications at that time.

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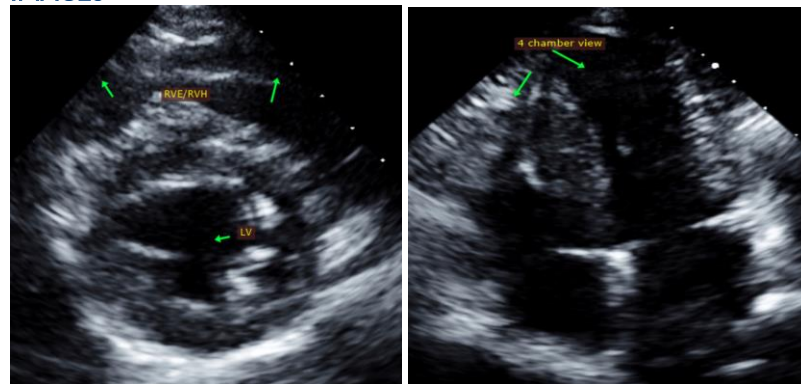
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IMAGES





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

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