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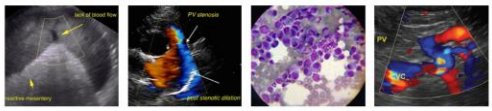

SonoPath
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PATIENT
Spenser Abreau

SPECIES
Canine

BREED
Labrador Retriever Mix

SEX
Male Neutered

AGE
10 years

WEIGHT
67.2lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Wignall Animal Hospital

REFERRING VET
Dr. Colella

INVOICE
32312

DATE
8/11/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. History of heartworm disease as a puppy. Diagnosed with pulmonary hypertension and mild right-sided changes on prior echocardiogram 1/16/23 (measurement not available): mild-moderate RAE, moderate RVE, mild-moderate pulmonary branch dilation, mild-moderate TR. On Sildenafil 50mg q8h, Pimobendan 7.5mg BID. BP: 220, 220, 230mmHg.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with adequate myocardial function. Septal flattening in systole. LV wall thicknesses are normal.
Left atrium: The left atrium is normal.
Mitral valve: The mitral valve is mildly diffusely thickened with no prolapse into the left atrial lumen. Mild central mitral regurgitation. Normal velocity.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: Mild RV hypertrophy with mild dilation.
Right atrium: Mild to moderate RA enlargement.
Tricuspid valve: The tricuspid valve appears mildly thickened with mild to moderate tricuspid regurgitation; Velocity consistent with mild to moderate pulmonary hypertension.
Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. Mild pulmonic insufficiency. Normal RVOT velocity; laminar flow. Moderate MPA and branch dilation.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses
Heart rhythm: ECG reveals a sinus rhythm with an average HR of 83bpm.

2-Dimensional Measurements

Ao diam (cm)	2.5
LA diam (cm)	3.2
LA:Ao (Swe)	1.3
IVS thickness (cm)	0.9
LVID diastole (cm)	4.2
PW thickness (cm)	0.9
LVID systole (cm)	2.4
FS (%)	43

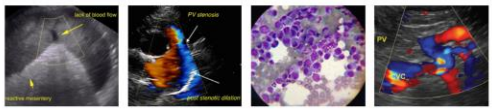
Doppler Measurements

PV Vmax (m/s)	0.84
AoV Vmax (m/s)	1.4
MR Vmax (m/s)	5.6
TR Vmax (m/s)	3.4
TR PG (mmHg)	45

INTERPRETATION OF THE FINDINGS

Compared to the prior study, findings appear similar. Chronic degenerative valve disease with mild mitral and mild to moderate tricuspid regurgitation is present. Lack of significant left atrial enlargement indicates the current risk for complication is low. Mild to moderate pulmonary hypertension is noted, which is similar to what was described previously. The right heart is enlarged with MPA dilation; however, the pressure gradient appears to reflect good control. No additional issues are noted in this study.

Given these findings, continue 2 medications going forward, as this protocol is reasonable. The best approach to further managing PAH is adequate cough control should it arise in the future. Monitor for signs of progressive pulmonary hypertension, including exertional dyspnea or syncope.



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The reported blood pressure is elevated, and should be reassessed for accuracy particularly given no reported clinical signs of severe hypertension (retinal changes, etc) or evidence of LVH on echo. Ideally obtain serial measurements in a controlled, low stress environment and continue until 3 consecutive readings plateau within 5mmHg of variability. If persistently >180mmHg despite a relatively calm demeanor, recommend institution of amlodipine to effect. Additionally if deemed accurate, screening for predisposing underlying causes of SHT is recommended (Cushings, PLN, adrenal tumor, etc), as primary disease is relatively uncommon and a rule out diagnosis.

Prognosis is guarded going forward and monitoring for progression is advised.

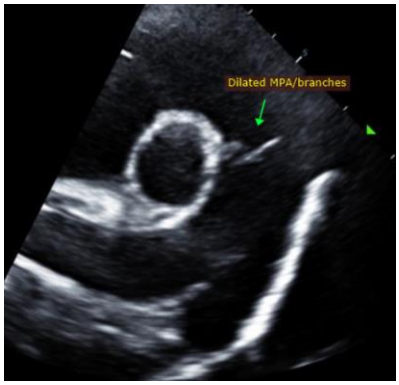
RECOMMENDATIONS

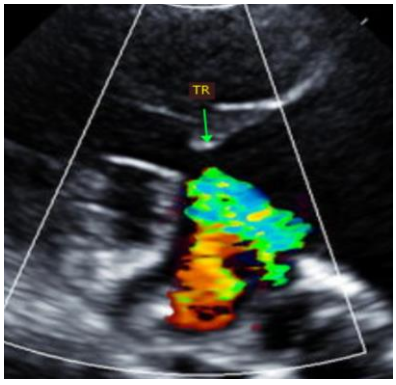
- Continue Pimobendan and Sildenafil as prescribed.
- Reassess BP as discussed.
- Monitor for signs progressive PAH (exertional dyspnea/collapse).
- If a cough or respiratory signs arise, further pulmonary therapy may be warranted.
- Omega fatty acid supplementation and mild salt restriction may be of 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.

PLAN

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

IMAGES





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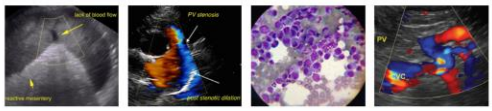

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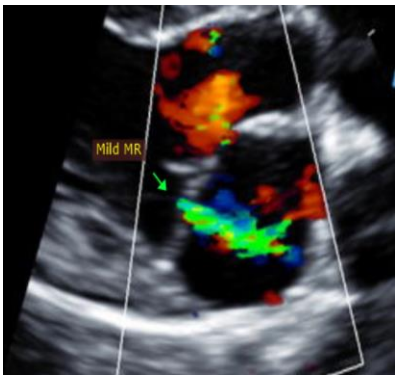

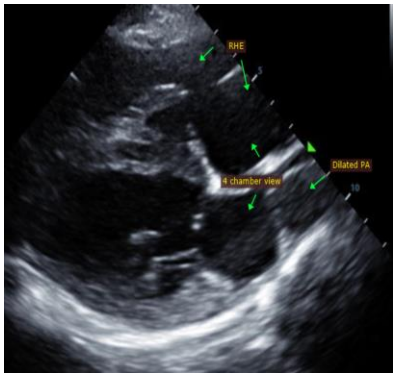

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com

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