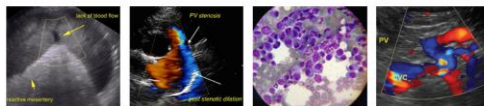
PAUS Pet Animal Ultrasound Service

4paus.com 781-635-5677



SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Charlie Barton

SPECIES
Canine

BREED
Shih Tzu

SEX
Male Neutered

AGE
9 years

WEIGHT
20lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Chase Veterinary Clinic

REFERRING VET
Dr. Caffarella

INVOICE
34094

DATE
5/9/22

PRESENTING CLINICAL SIGNS

History: Presented to ER for several syncopal episodes (no diagnostics performed). On exam, grade III-IV/VI systolic murmur. ProBNP 826; BP: 130 mmHg.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is significantly increased with hyperdynamic myocardial function. LV wall thicknesses are normal.
Left atrium: The left atrium is severely dilated.
Mitral valve: The mitral valve is diffusely thickened with prolapse into the left atrial lumen. Severe eccentric 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.
Right ventricle: Mild right ventricular dilation. No obvious hypertrophy.
Right atrium: Mild RA dilation.
Tricuspid valve: The tricuspid valve appears thickened with moderate tricuspid regurgitation; velocity indicative of mild to moderate pulmonary hypertension.
Pulmonary valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. Trivial 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 160bpm.

2-Dimensional Measurements

Measurement	Value
Ao diam (cm)	1.4
LA diam (cm)	3.7
LA:Ao (Swe)	2.7
IVS thickness (cm)	0.7
LVID diastole (cm)	4.3
PW thickness (cm)	0.7
LVID systole (cm)	2.2
FS (%)	49

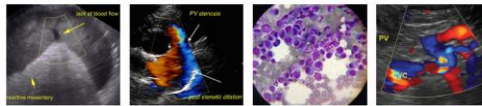
Doppler Measurements

Measurement	Value
PV Vmax (m/s)	0.7
AoV Vmax (m/s)	1.0
MR Vmax (m/s)	5.0
TR Vmax (m/s)	3.8
TR PG (mmHg)	49

INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease causing severe mitral and moderate tricuspid regurgitation. Significant left atrial and ventricular enlargement indicates there is an elevated risk for spontaneous congestive heart failure. Mild to moderate pulmonary hypertension is noted, likely due to chronic LA pressure elevation. No additional comorbidities such as systolic dysfunction are seen.

Syncope in a patient with this degree of disease is most likely cardiogenic in origin. Possible causes include poor forward blood flow leading to hypoxia with excitement (suspected), early CHF (suspected), severe pulmonary hypertension (mild to moderate seen), an arrhythmia and/or blood pressure swings/vasovagal event. Recommend institution of full cardiac support as below, with monitoring at home for persistent episodes. Should the episodes persist in the future, consider a Sildenafil trial, repeat chest radiographs and potentially a Holter monitor may be necessary. Long term prognosis is poor; however, most dogs are able to maintain a good QOL on medications for an average of 8-12 months from diagnosis of CHF.



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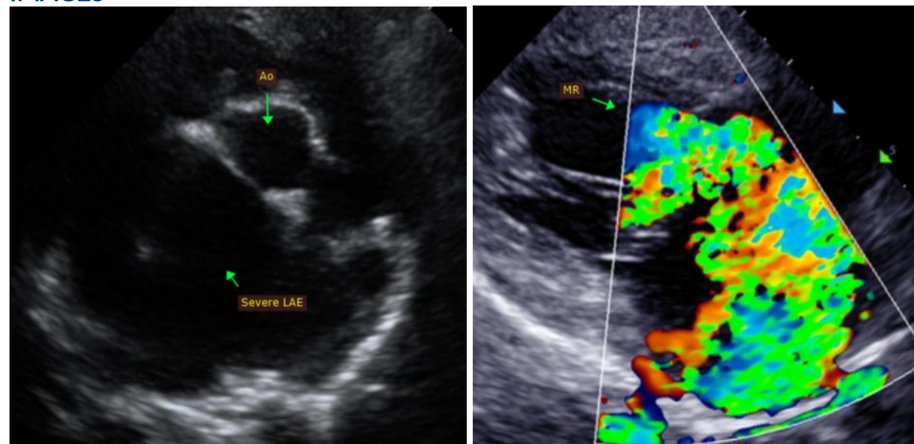
RECOMMENDATIONS

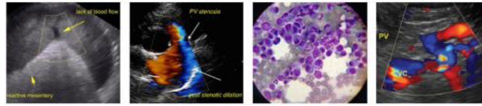
- Institute Lasix 1-2mg/kg PO q12h.
- Institute Pimobendan 0.25-0.3mg/kg PO q12h.
- Institute Spironolactone 1-2mg/kg PO q12h (available in 25 and 50mg tablets).
- If syncope persists, consider a Sildenafil trial 1-2mg/kg PO q12h for 2 weeks. Consider CXR, holter, etc as discussed.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Mild activity/stress limitation advised while maintaining QOL.
- Elective anesthesia is not advised.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Monitoring of sleeping respiratory rates will be paramount to screen for congestive heart failure at home.

PLAN

- Monitor renal values and BP in 1-2 weeks. If doing well at home with no persistent episodes, institute ACE-Inhibitor 0.5mg/kg PO q12h.
- Monitor renal values and BP every 3-4 months lifelong.
- Recommend conservative monitoring with a recheck echocardiogram in 4-6 months, sooner if any development of clinical signs.

IMAGES





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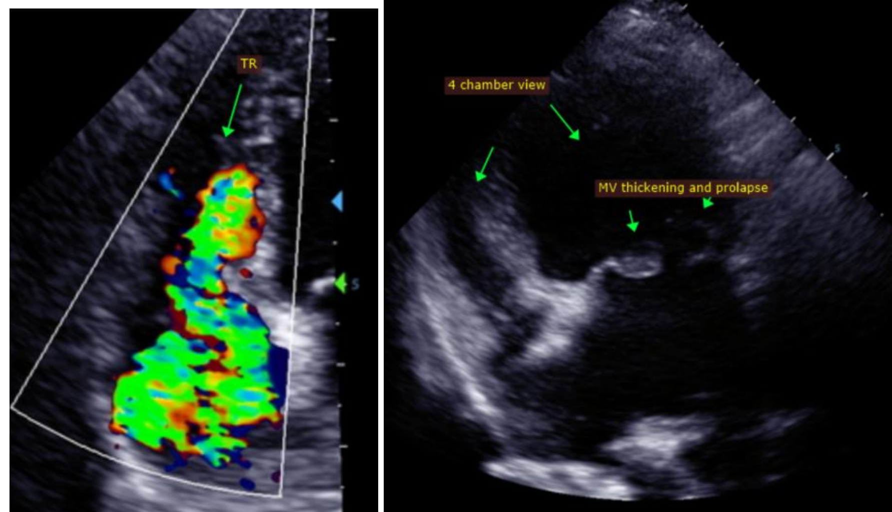

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. 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