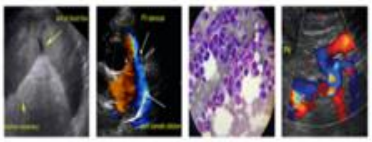
Mass Veterinary Services



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

PATIENT
Sherpa Merrigan

SPECIES
Canine

BREED
Tibetan Terrier

SEX
Male Intact

AGE
13 years

WEIGHT
28.6lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
30175

DATE
4/12/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. History chronic valvular disease - Stage B2. 5 days ago, Sherpa had marked increase in coughing/hacking. He also became very lethargic and laid down during a walk. No collapse episodes. He has stopped eating the past 2 days. On exam: significant arrhythmia, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear, mm pink, moist, CRT<2. BP: 80-100 mmHg. Current medications: 1) Pimobendan/vetmedin 7.5mg 1/2 tab twice a day 2) Enalapril 5mg 1 tab twice a day 3) Spironolactone 125mg 1/2 tab twice a day 4) Hydrocodone with homatropine/hycodan 5mg 2 tabs in evening *No sedation for study (whining throughout).
-Pertinent previous echo findings (6/22/22 MML): LA 3.5 cm; LA:Ao 2.1; LV 5.2 cm; severe LAE, LVE, severe MR, mild TR (2.5 m/s).
-CXR: Showed mild pulmonary edema.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 150bpm (range 75-214bpm). No identifiable P waves with irregularly irregular rhythm. Rare isolated VPCs.
ECG diagnosis: Atrial fibrillation. Isolated VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is increased with adequate myocardial function. LV wall thicknesses are decreased.
Left atrium: The left atrium is markedly dilated.
Mitral valve: The mitral valve is diffusely thickened with significant prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with a decreased velocity.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. Mild aortic insufficiency.
Right ventricle: Mild RV enlargement.
Right atrium: Mild RA enlargement.
Tricuspid valve: The tricuspid valve appears mildly thickened with mild to moderate tricuspid regurgitation. Normal velocity.
Pulmonary valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. Trace pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: Scant pericardial effusion. No pleural effusion noted. Small volume ascites seen on subcostal views. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	1.8
LA diam (cm)	4.6
LA:Ao (Swe)	2.6
IVS thickness (cm)	0.7
LVID diastole (cm)	5.0
PW thickness (cm)	0.7
LVID systole (cm)	3.1
FS (%)	38

Doppler Measurements

PV Vmax (m/s)	0.5
AoV Vmax (m/s)	1.0
MR Vmax (m/s)	4.4
TR Vmax (m/s)	2.2
TR PG (mmHg)	20

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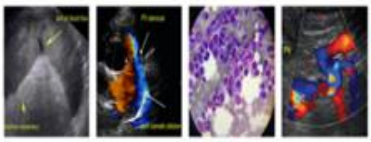

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INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease persists with continued progression. The LA is now markedly dilated with evidence of myocardial failure. The right heart is now mildly enlarged, although no pulmonary hypertension is noted. No additional structural issues have developed.

The ECG does show development of atrial fibrillation, which was not noted previously. This is no question secondary to atrial dilation and severe structural disease. What is unusual is the average heart rate is 150bpm without a significant tachycardia present. This is rare to see, particularly in light of right-sided congestive signs. Going forward, low-dose Diltiazem is recommended, as this is likely related to the development of right-sided CHF with the goal being to block heart rates over 180bpm while maintain the resting heart rate. Additionally, full diuretic therapy is now warranted. If the patient is or becomes unstable, hospitalization may be warranted.

Prognosis is poor once CHF has developed with most dogs able to be maintained for <8-12 months. Patient will always be at risk for recurrent CHF, LA tear, development of malignant arrhythmias/sudden death going forward. If any further decline is noted, reassessment and hospitalization should be sought.

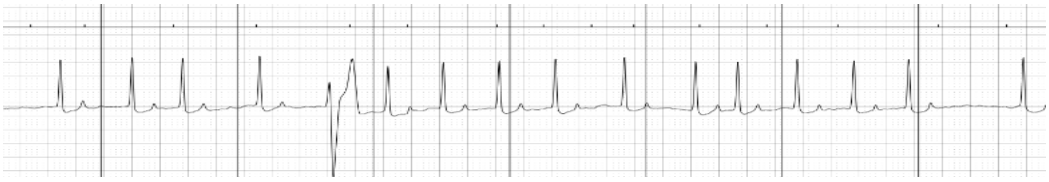
RECOMMENDATIONS

- Continue Pimobendan, Spironolactone as prescribed.
- Discontinue Enalapril due to hypotension.
- Institute Lasix 1-2mg/kg PO q12h.
- Consider a lasix injection and/or hospitalization if necessary.
- Institute low-dose Diltiazem 15mg PO q12h.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Elective anesthesia is not advised.
- Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.
- Monitor sleeping breathing rates at home to screen for development of CHF.

PLAN

- Reassess renal values/BP/HR/ECG in 3-5 days to assess response, then every 3-4 months lifelong. If normotensive, reinstitute ACEI; otherwise do not use.
- Recommend conservative monitoring with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

IMAGES



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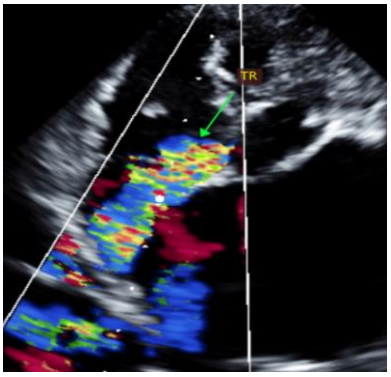

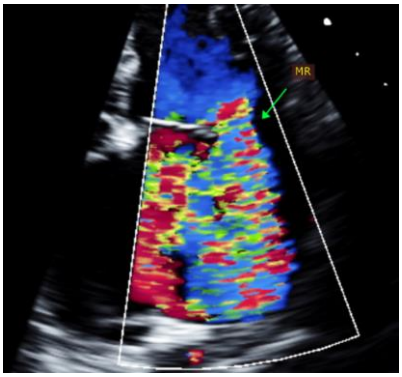

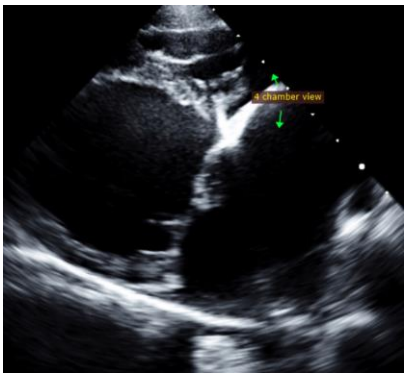

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. 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)