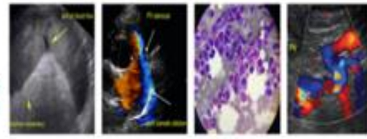
Mass Veterinary Services



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

PATIENT
Sandy Nale

SPECIES
Canine

BREED
Maltese Mix

SEX
Female Spayed

AGE
14 years

WEIGHT
15.25lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan, RDCS

HOSPITAL NAME
Mass Veterinary Services

REFERRING VET
Dr. Masloski

INVOICE
26232

DATE
9/7/22

PRESENTING CLINICAL SIGNS

History: Sandy was noted to have a heart murmur in February 2020. Chest films taken in April revealed cardiomegaly with pericardial fluid (?). Sandy was started on pimobendan, enalapril, and Lasix. Less coughing on the medications. She continues to eat well with normal activity for a canine of her years. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung fields clear. BP: 110mmHg x 3. Current medications: 1) Pimobendan/vetmedin 2.5mg 1 tab twice a day 2) Lasix/furosemide 12.5mg 1/2 tab daily 3) Enalapril 2.5mg 1 tab twice a day *No sedation for study.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is normal with adequate function. LV wall thicknesses are normal.
Left atrium: The left atrium is moderately dilated.
Mitral valve: The mitral valve is diffusely thickened with mild prolapse into the left atrial lumen. Moderate 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 RV prominence.
Right atrium: Mild RA prominence.
Tricuspid valve: The tricuspid valve appears mildly thickened with moderate tricuspid regurgitation. Velocity consistent with mild to moderate pulmonary hypertension.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. Trace 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 140bpm.

2-Dimensional Measurements

Ao diam (cm)	1.5
LA diam (cm)	2.6
LA:Ao (Swe)	1.7
IVS thickness (cm)	0.7
LVID diastole (cm)	2.8
PW thickness (cm)	0.7
LVID systole (cm)	1.1
FS (%)	60

Doppler Measurements

PV Vmax (m/s)	0.7
AoV Vmax (m/s)	1.7
MR Vmax (m/s)	6.0
TR Vmax (m/s)	3.9
TR PG (mmHg)	61

INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease causing moderate mitral and tricuspid regurgitation. Moderate left atrial enlargement indicates there is relatively low risk for imminent complication; however, risk for progression to spontaneous congestive heart failure in the future is elevated. Mild to moderate pulmonary hypertension is noted which is likely secondary to a reported cough. No additional issues are identified.

Given these findings, continued Pimobendan is recommended as below. The cough is suspected to be due to primary airway disease with some degree of mainstem bronchi compression. Baseline chest radiographs are recommended if not recently performed. CHF is considered unlikely, and **low dose Lasix can be discontinued**. A history of pericardial effusion is confounding as this is considered unlikely without ultrasonic

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confirmation. Right-sided CHF would be considered extremely unlikely in this case. A trial of Sildenafil can be considered, particularly if any exertional dyspnea or collapse is noted. This will not treat the cough, which must be addressed separately as below. Finally, the ACE-I should be weaned and/or discontinued given relative hypotension in hospital.

It is important to note that pulmonary hypertension develops secondary to a cough rather than being a primary cause. Treatment is based upon clinical signs such as exertional syncope or dyspnea. Hydrocodone is recommended to improve quality of life and help decrease symptom at home. Prognosis is guarded long-term (stage B2) with risk for progression to CHF, development of arrythmias and/or sudden death in the future.

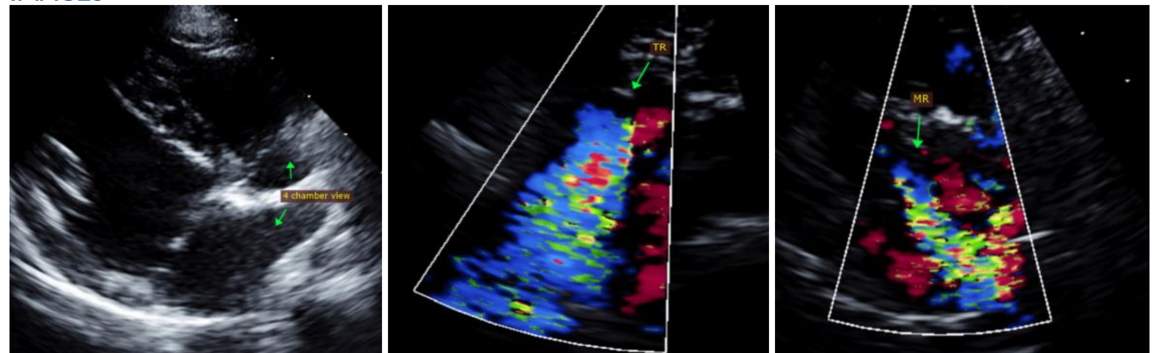
RECOMMENDATIONS

- Continue Pimobendan 0.3mg/kg PO q12h.
- Lasix can be discontinued.
- Wean Enalapril to 1.25mg PO q12h and reassess BP. If persistently <130mmHg, discontinue this medication.
- Consider Hydrocodone if needed for quality of life as discussed.
- Consider Sildenafil trial 1-2mg/kg PO q12h.
- Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.
- Anesthetic risk is considered moderate 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.

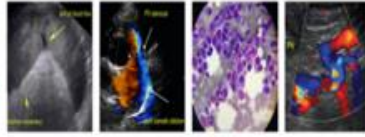
PLAN

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

IMAGES



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



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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)