



PATIENT
Niblet Kaplan

SPECIES
Canine

BREED
Maltese Mix

SEX
Male Intact

AGE
12 years

WEIGHT
4.5lbs

INTERPRETED BY
Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan,
RDCS

HOSPITAL NAME
Mass Veterinary
Services

REFERRING VET
Dr. Masloski

INVOICE
26101

DATE
8/30/22

PRESENTING CLINICAL SIGNS

History: Niblet was diagnosed with chronic valvular disease in June 2021. He was started on pimobendan and enalapril. A recheck echo in March of this year revealed his disease to be stable (see below). He is eating well and remains active. On exam, NSR, grade V/VI murmur with PMI left apical area radiating to right, PSS, lung fields are clear. BP: 160mmHg x 5. Current medications: 1) Pimobendan/vetmedin 1.25mg 1 tab twice a day 2) Enalapril 2.5mg 1/2 tab twice a day *No sedation for study.
-Pertinent previous echo measurements (6/22/21 Kenneth Knaack, DVM, DACVIM): LA 1.81 cm; LA:Ao 2.36; LV 2.38 cm.

ECHOCARDIOGRAM FINDINGS

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

Left ventricle: There is mild left ventricular dilation. Left ventricular systolic function is hyperdynamic. A small perimembranous VSD is visualized with left to right flow (max 4.6m/s).

Left atrium: There is moderate left atrial enlargement. Suspicion for a dilated coronary sinus and persistent left cranial vena cava.

Mitral valve: The mitral valve is diffusely thickened with mild prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal.

Aortic valve/Aorta: There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet although mildly thickened with decreased excursion. Mild aortic insufficiency.

Right ventricle: Normal right ventricular diameter and morphology.

Right atrium: Mild right atrial and ventricular dilation (subjective).

Tricuspid valve: Mild thickening of the tricuspid valve with septal prolapse and mild TR. Velocity consistent with mild to moderate pulmonary hypertension.

Pulmonic valve/Pulmonary artery: The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. No 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 130bpm.

2-Dimensional Measurements

Ao diam (cm)	1.4
LA diam (cm)	2.4
LA:Ao (Swe)	1.7
IVS thickness (cm)	0.4
LVID diastole (cm)	2.7
PW thickness (cm)	0.5
LVID systole (cm)	1.7
FS (%)	37

Doppler Measurements

PV Vmax (m/s)	1.3
AoV Vmax (m/s)	1.0
MR Vmax (m/s)	5.9
TR Vmax (m/s)	3.4
TR PG (mmHg)	47

INTERPRETATION OF THE FINDINGS

Chronic degenerative valve disease persists with severe mitral and mild tricuspid regurgitation. Compared to what is available from the prior study, the left-sided heart disease appears stable without obvious progression in LA or LV enlargement. As a concurrent issue, mild to moderate pulmonary hypertension is documented, which is likely secondary to chronic LA pressure elevation. Additionally, two congenital abnormalities are visualized. First is a persistent left cranial cava (PLCC) and dilated coronary sinus, which is



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clinically insignificant and uncommon in small animals. Second is a small perimembranous VSD is documented. The latter is relatively common and will contribute to murmur intensity. That being said, the hemodynamic significance appears low. Finally, the aortic valve appears mildly abnormal with decreased excursion; however, no obvious stenosis is identified. The aortic leak should be monitored going forward. No additional issues are documented.

Given these findings, reasonable to continue Pimobendan and Enalapril as prescribed. No obvious indication for additional medications. Assessment of progression in the future will help predict long term outcome, however prognosis is guarded at this stage (late B2). Unfortunately, the patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

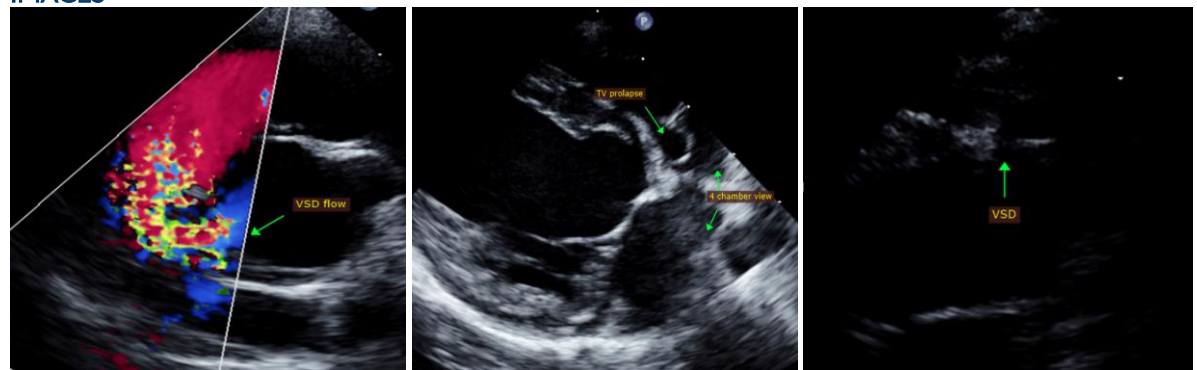
RECOMMENDATIONS

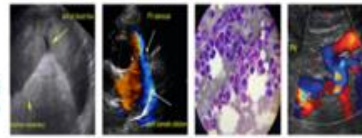
- Continue Pimobendan and Enalapril as prescribed.
- Close monitoring for development of associated clinical signs (development of a cough, labored breathing, exercise intolerance or worsening collapse episodes) is recommended. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.
- Elective anesthesia is not advised, as there is high risk for complication. If necessary, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.
- Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit.

PLAN

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

IMAGES





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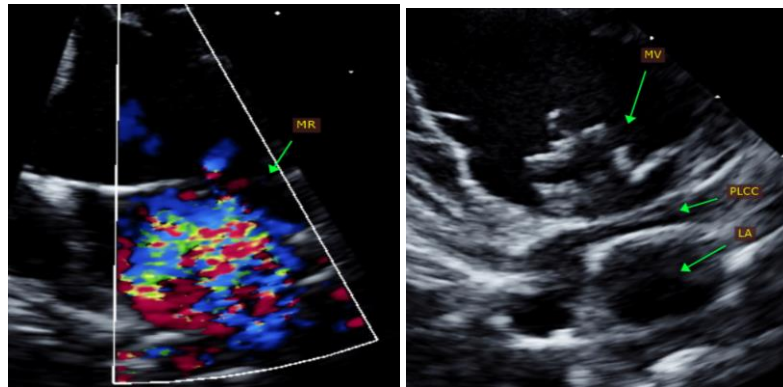
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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