



PATIENT

Chloe Nunens

SPECIES

Canine

BREED

Maltese

SEX

Female Spayed

AGE

10 years

WEIGHT

8.75lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY

Pamela Harrigan,
RDCS

HOSPITAL NAME

Mass Veterinary Services

REFERRING VET

Dr. Masloski

INVOICE

23478

DATE

4/6/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. History mitral valve dysplasia vs atypical degenerative valvular disease +/- primary hypertrophic disease. Current presentation: Chloe coughs multiple times a day with some instances of labored breathing noted. She is eating well with somewhat reduced activity level (prefers to nap all day). She will need to go back on her Apoquel soon for her allergies since she was able to be off it for a while. On exam: NSR, grade IV/VI murmur with PMI left apical area radiating to right, PSS, lung clear, coughs with tracheal pressure, subtle abdominal component to respirations. BP: 80 mmHg x 5. Medications: 1) Enalapril 2.5mg 1/2 tab daily 2) Pimobendan/vetmedin 1.25mg 1 tab twice a day 3) Lasix/furosemide 12.5mg 1/2 tab twice a day 4) Diphenoxylate with atropine 2.5mg *No sedation for study.
-Pertinent previous echo findings (9/29/21 MML): LA 2.2 cm; LA:Ao 1.8; LV 1.8 cm; moderate LAE; thickened MV with moderate MR and SAM - LVOT 5.2 m/s; severe LVH.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV is normal in dimension with severely increased wall thicknesses. A small perimembranous VSD is suspected with left to right flow.
Left atrium: The left atrium is moderately dilated.
Mitral valve: The mitral valve is abnormal with a thickened anterior and posterior leaflet. No obvious prolapse seen. Moderate eccentric mitral regurgitation. Normal velocity. The tip of the anterior leaflet can be seen obstructing flow through the LVOT and systole.
Aortic valve/aorta: The aortic valve is normal in morphology and mobility. Severely elevated aortic outflow velocities. No aortic insufficiency.
Right ventricle: The right ventricular appears mildly hypertrophied. A dynamic RVOTO is suspected on color flow imaging, which appears benign.
Right atrium: Normal RA dimension.
Tricuspid valve: The tricuspid valve is normal with no tricuspid regurgitation.
Pulmonic valve/pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency.
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

Ao diam (cm)	1.3
LA diam (cm)	2.4
LA:Ao (Swe)	1.8
IVS thickness (cm)	1.1
LVID diastole (cm)	1.9
PW thickness (cm)	1.2
LVID systole (cm)	1.2
FS (%)	37

Doppler Measurements

PV Vmax (m/s)	1.5
AoV Vmax (m/s)	6.2
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA

INTERPRETATION OF THE FINDINGS

Compared to the prior study, there is evidence of relative stability. The left heart remains highly abnormal with LV hypertrophy and LA enlargement. That being said, the measurements are similar to previous study. The LVOT obstruction is similar as well. The right heart remains hypertrophied with an RVOTO seen on color flow imaging. Finally, a small VSD is suspected on this image set, which was not previously documented. This



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appears left to right and is hemodynamically insignificant. No additional issues are identified.

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Given these findings, it is reasonable to continue Lasix and Pimobendan as previously recommended. The patient is relatively hypotensive and Enalapril should be discontinued. Atenolol was recommended on the previous exam and remains the recommendation, in order to help control the LVOTO. If declined given the age of the patient and overall asymptomatic status, this is also a reasonable approach.

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Patient will always remain at risk for progression to CHF, development of malignant arrhythmias and/or sudden death in the future. Lifelong mild activity restriction is advised.

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RECOMMENDATIONS

- Continue Lasix and Pimobendan as previously recommended.
- If elected, institute Atenolol 25mg tablets; Give ¼ tab once daily. Recheck heart rate in 1-2 weeks with target stressed rate of 140-160bpm 12-24 hours post-administration and titrate to effect.
- Discontinue Enalapril as discussed.
- Close monitoring for development of associated clinical signs, such as a cough, labored breathing, exercise intolerance or collapse episodes.
- 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.

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PLAN

- A recheck echocardiogram is recommended in 6-12 months to screen for progression, sooner if clinical signs arise.

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RDCS

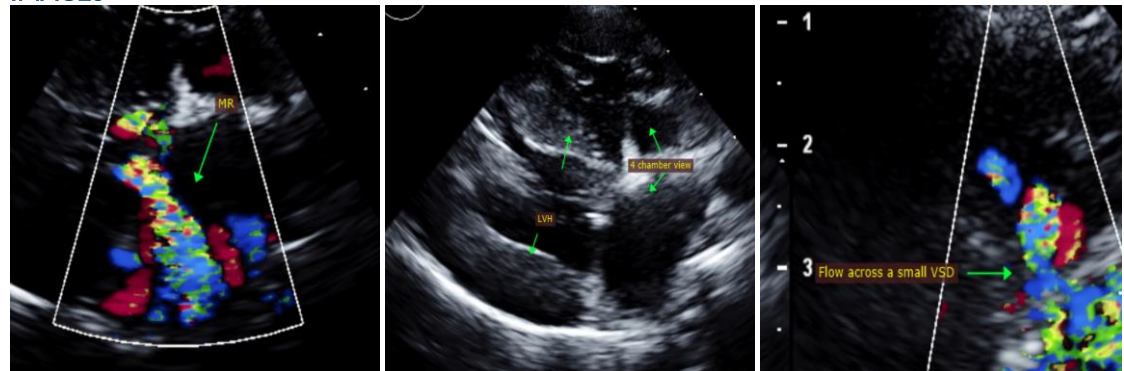
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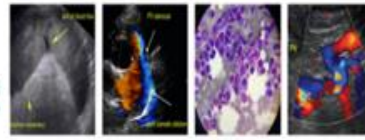
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IMAGES





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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.

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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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Maltese

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

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