



PATIENT
Luna Fleron

SPECIES
Feline

BREED
DLH

SEX
Female Spayed

AGE
10 years

WEIGHT
9lbs

INTERPRETED BY
Maggie Machen
Lamy, DVM
DACVIM (Cardiology)

IMAGING PERFORMED BY
Pamela Harrigan,
RDCS

HOSPITAL NAME
Mass Veterinary
Services

REFERRING VET
Dr. Masloski

INVOICE
31307

DATE
6/13/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. History Restrictive Cardiomyopathy. History atrial fibrillation with rapid ventricular response. Presently, Luna is doing well at home with a good appetite and normal activity level. She has been doing much better the past few weeks with her medications and in general. On exam: pronounced arrhythmia, no obvious murmurs noted, PSS, lung fields clear, compressible thorax, mm pink, moist, CRT<2. Current medications: 1) Pimobendan/vetmedin 3.75mg 1/3 tab twice a day 2) Plavix/clopidogrel transdermal 9mg/click 2 clicks to ear daily 3) Lasix/furosemide 12.5mg 1/2 tab twice a day 4) Diltiazem transdermal 7.5mg twice a day 5) Taurine 250mg 1/2 tab PO SID *No sedation for study.
-Pertinent previous echo findings (11/2/22 MML): LA 2.2 cm; LA:Ao 2.2, LV 1.9 cm; OVS 0.35 cm; PW 0.35 cm; severe bi-atrial enlargement with spontaneous contrast, LV remodeling.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 230bpm (range 166-300bpm). The rhythm is irregularly irregular without identifiable P waves consistent with atrial fibrillation. Aberrant conduction noted throughout (Ashman's phenomenon); however, occasional VPCs are also suspected.
ECG diagnosis: Rapid atrial fibrillation with aberrant conduction; insufficient rate control. Suspect occasional VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and Doppler imaging is available.
Left ventricle: The LV diameter is mildly increased with significant myocardial dysfunction. The LV wall thicknesses are irregular with overall thinning. There is a diffusely hyperechoic endocardium consistent with fibrosis. The endocardium is significantly remodeled. The papillary muscles are mildly remodeled and hyperechoic.
Left atrium: The left atrium is severely dilated and bulbous in appearance. Subtle smoke noted. No obvious thrombi seen.
Mitral valve: The mitral valve is normal in structure and mobility. No obvious systolic anterior motion is seen. Mild central MR secondary to annular stretch.
Aortic valve/Aorta: The aortic valve is normal in morphology and mobility. Normal aortic outflow velocity; laminar flow. No aortic insufficiency.
Right ventricle: The RV is affected as well with diffuse fibrosis overall.
Right atrium: The right atrium is moderate to severely dilated.
Tricuspid valve: The tricuspid valve appears normal with mild tricuspid regurgitation.
Pulmonic valve/Pulmonary artery: The pulmonic valve is normal in morphology and mobility. No pulmonic insufficiency. Normal RVOT velocity; laminar flow.
Pericardium/other: No pericardial or pleural effusion noted. No obvious cardiac masses.

2-Dimensional Measurements

Ao diam (cm)	0.9
LA diam (cm)	2.3
LA:Ao (Swe)	2.6
IVS thickness (cm)	0.35
LVID diastole (cm)	1.9
PW thickness (cm)	0.41
LVID systole (cm)	1.4
FS (%)	26

Doppler Measurements

PV Vmax (m/s)	0.80
AoV Vmax (m/s)	0.75
MR Vmax (m/s)	NA
TR Vmax (m/s)	NA
TR PG (mmHg)	NA



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INTERPRETATION OF THE FINDINGS

Compared to the prior study, findings are similar. Both atrial are significantly enlarged, with sedonary MR and TR. The LV appearance/dysfunction is unchanged as well, albeit markedly abnormal. No effusions or other issues are identified.

The ECG shows a similar arrhythmia as well, with persistent AF. Frequent wide complex morphology beats are seen which suggest aberrant conduction. That being said, there is also suspicion for development of VPCs, which were not noted previously. Most concerning, the HR is persistently elevated despite diltiazem, without a significant improvement. Based upon this, the dose of diltiazem should be adjusted. If possible, changing to an oral formulation is suggested as transdermal absorption should be questioned given a poorly controlled heart rate.

Given these findings, continuing all medications is recommended as below. Even with a patient who is doing well at home, it is important to note that this is considered end stage disease. The patient is at high risk for malignant arrhythmias, fulminant congestive heart failure and/or sudden death going forward, and this should be expressed to the owner.

RECOMMENDATIONS

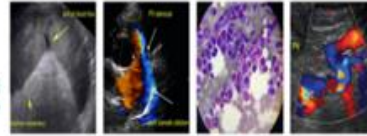
- Continue Lasix/furosemide 1-2mg/kg PO q12h.
- Continue blood thinner Clopidogrel (Plavix) 75mg tablets; give ¼ tab orally once daily (NOTE: this medication is very bitter on the cut edges).
- Institute Pimobendan (off label use) 1.25mg PO q12h.
- DOSE ADJUSTMENT: Administer diltiazem 1-2mg/kg ideally PO q8h. Reassess HR in 1-2 weeks; target 140-160bpm in hospital.
- Elective anesthesia is not advised.
- Monitor for any clinical evidence of cardiac compromise, including respiratory changes and/or signs of a blood clot event (paralysis, neurologic changes, etc.).

PLAN

- Recheck renal panel and BP every 3-4 months lifelong.
- Recommend recheck echocardiogram in 6 months, sooner if clinical signs arise in the interim.

IMAGES





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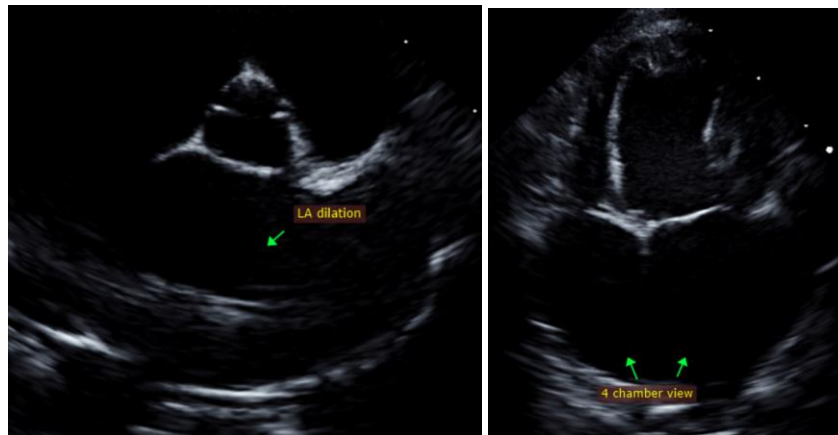
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)