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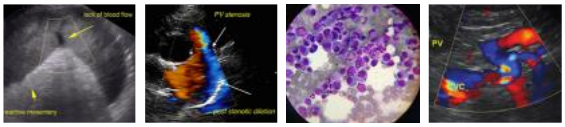

ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Misha Werner

SPECIES
Feline

BREED
Mix

SEX
Female Spayed

AGE
17 years

WEIGHT
10.86lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
West Hill Animal Hospital

REFERRING VET
Dr. Remcho

INVOICE
23764

DATE
4/19/22

PRESENTING CLINICAL SIGNS

History: Recheck echo. Doing well. Nighttime vocalization. HR: 140bpm. Unable to medicate.
-BP: 248, 280, 225, 219, 196mmHg.
-Abnormal lab results: ProBNP: 1391.
-Pertinent previous echo findings (10/2019 MML): LVH (IVSd: 0.8m, LVWd: 0.84), mild LAE: 1.4cm, LVOTO: 6.6m/s, MV dysplasia, moderate AI.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 20mm/mV. The average heart rate is 188bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus tachycardia.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is significantly hypertrophied. There is a diffusely hyperechoic endocardium consistent with fibrosis. Papillary muscle hypertrophy. The right ventricle is normal. There is mild left atrial enlargement present. No right atrial enlargement present. Normal RVOT velocity. Abnormal anterior motion of the mitral valve is present, with the tip visible in the LVOT during systole (see below). Elevated LVOT velocity on color flow (not captured on doppler). The anterior leaflet of the MV is elongated, consistent with dysplasia. There is moderate eccentric secondary mitral regurgitation present. Moderate AI. No other obvious valvular regurgitation is present. There is no pericardial effusion noted. No pleural effusion appreciated.

CARDIAC CHART

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) (Moise, Pipers)	LVIDd (cm) (Moise, Pipers)	LVWd (cm) (Moise, Pipers)	FS (%)	EF (%)
NORMAL PARAMETER	------	150-240	0.35-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	4.92	173	0.84	1.25	0.74	48	83
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE (Swe)** (Abbott)	**LA** 2D short axis Base view (cm) (Abbott)		**LVOT VEL** (m/s)	**RVOT VEL** (m/s)	**E max** (m/s)
NORMAL	<1.5	<1.3	<1.2		<1.6	<1.3	<0.9
PATIENT	1.5	1.4	1.1		1.7	1.1	NM

**Note: All measurements based upon multi-modal images and methods. An average value is reported.*
Adapted from June Boon, Veterinary Echocardiography,1998
Abbott J & MacLean H JVIM 2006;20: 111-119, Moise et al. Am J Vet Res 47:1476, 1986. Pipers et al. Am J Vet Res 40:882, 1979.

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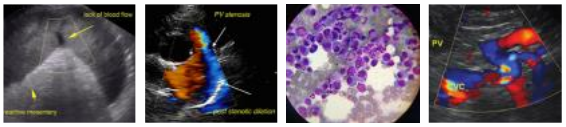

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Largely unchanged cardiac structure and function are identified in this study. The LV wall thickness is severely increased with mild LA enlargement. The LVOT obstruction persists, which is not surprising given a lack of Atenolol therapy. Finally, mild left atrial enlargement is unchanged, indicating the risk is relatively low for complications at this time.

Of great concern the reported blood pressure is markedly elevated, although quite variable. These values in light of an aortic insufficiency may certainly reflect pathologic hypertension in this senior cat. Recommend reassess for accuracy. Ideally obtain serial measurements in a controlled, low stress environment and continue until 3 consecutive readings plateau within 5mmHg of variability. If persistently >180mmHg despite a relatively calm demeanor, recommend institution of amlodipine to effect. Additionally, if deemed accurate, screening for predisposing underlying causes of SHT is recommended (Cushings, PLN, adrenal tumor, etc.), as primary disease is relatively uncommon and a rule out diagnosis.

Given a lack of progression over 3 years, it is reasonable to forgo Atenolol therapy at this time in this senior cat. The patient's risk for CHF has not significantly increased despite a lack of therapy. If patient is difficult to medicate, focus should be on stabilizing systemic pressures as a priority.

Anesthetic risk is elevated, with risk for fluid overload, spontaneous CHF, hypotension, arrhythmias, etc. Judicious IV fluid rates are advised to avoid fluid overload. Drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine). Avoid ketamine, telazol, acepromazine and Dexdomitor. Careful use of iatrogenic fluid administration and/or steroids is recommended, if necessary, in the future, as this patient is at high risk for fluid intolerance. Close monitoring of RR/RE is advised to screen for fluid overload.

Monitor at home for any respiratory signs or evidence of blood clot events (neurologic change, paralysis, etc.).

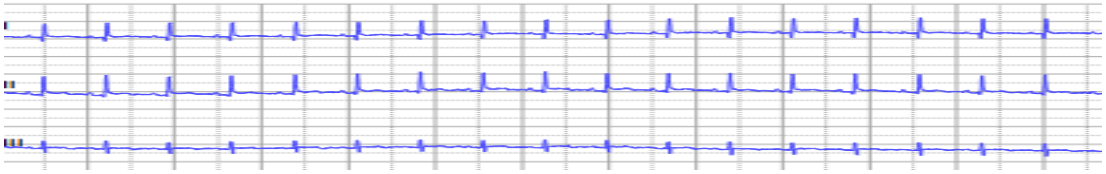
Long term prognosis is guarded given the highly variable nature of asymptomatic feline heart disease. Close monitoring for progression to LA dilation in the future will help determine long term prognosis.

PLAN

Reassess BP as discussed and institute therapy if indicated. Screen for underlying causes.

Recommend recheck echocardiogram in 6 months to assess for progression and response to therapy, sooner if clinical issues arise.

IMAGES



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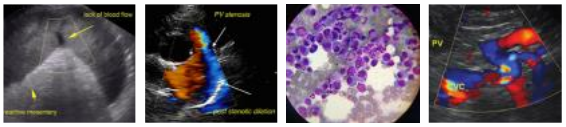

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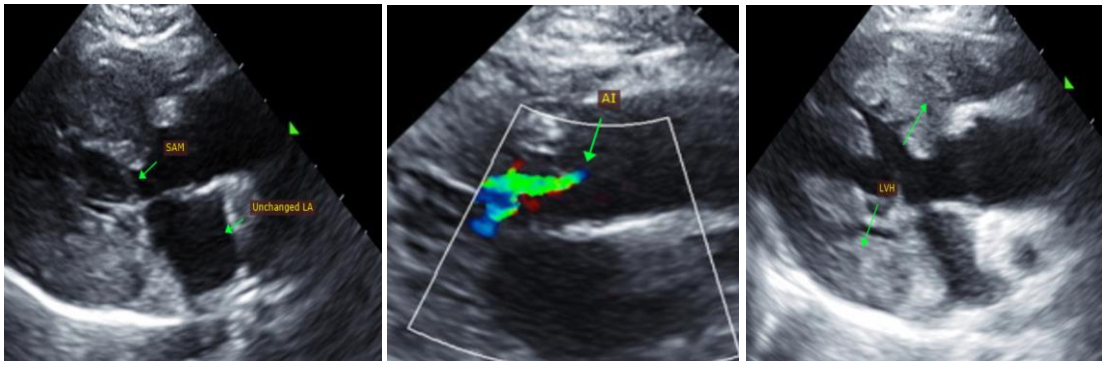

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com