SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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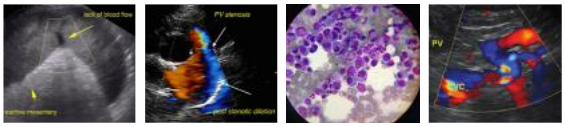

ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Cashew Whitely

SPECIES
Feline

BREED
DLH

SEX
Male Intact

AGE
5 months

WEIGHT
5.02lbs

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

IMAGING PERFORMED BY
Heidi Putnam, SDEP Clinical Sonographer

HOSPITAL NAME
Willakenzie Animal Clinic

REFERRING VET
Dr. Whalen

INVOICE
20393

DATE
8/4/21

PRESENTING CLINICAL SIGNS

History: Grade 4/6 parasternal heart murmur on 6/7/21 Has since progressed to 6/6 with a palpable thrill. Non-clinical: plays frequently, very active.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is borderline hypertrophied. There is a mildly hyperechoic endocardium consistent with fibrosis. Mild papillary muscle hypertrophy. The right ventricle is normal. There is borderline 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 with a dynamic profile. The anterior leaflet of the MV is thickened and elongated, consistent with dysplasia. There is moderate eccentric mitral regurgitation present. No other obvious valvular regurgitation is present. No obvious intra or extracardiac shunts seen. 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	2.3	208	0.5	1.26	0.5	63	93
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	1.2	1.1	1.06		>4.0	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.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The diagnosis and cause of the murmur is mitral valve dysplasia leading to LV hypertrophy, an obstructive LVOT flow pattern and secondary mitral regurgitation. A primary hypertrophic component is not suspected given only borderline LVH. There is minimal mild left atrial dilation present, indicating the risk of spontaneous CHF and/or a thrombotic event is currently low.

While no medications have been shown to definitively alter long term outcome at this stage of disease, atenolol is often initiated to decrease the outflow obstruction. In cases of solely primary MV dysplasia this can lead to improvement in the degree of obstruction and hypertrophy. Given today's findings it is reasonable to initiate at this time as below. No additional medications are indicated prior to significant LA dilation.

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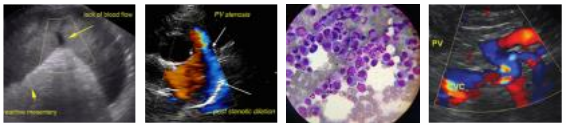

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Monitor at home for any respiratory signs or evidence of blood clot events (neurologic change, paralysis, etc.). Prognosis is guarded, given the highly variable rates of progression with subclinical feline cardiomyopathy. Many cats will remain asymptomatic until mid-life or beyond, while others develop CHF within the first years. Many cats will remain asymptomatic until mid-life or beyond, while others develop CHF within the first years. Close monitoring for progression to LA dilation in the future will help determine long term prognosis.

Anesthetic risk is considered mildly elevated, with risk for fluid overload, spontaneous CHF, hypotension, 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. A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance.

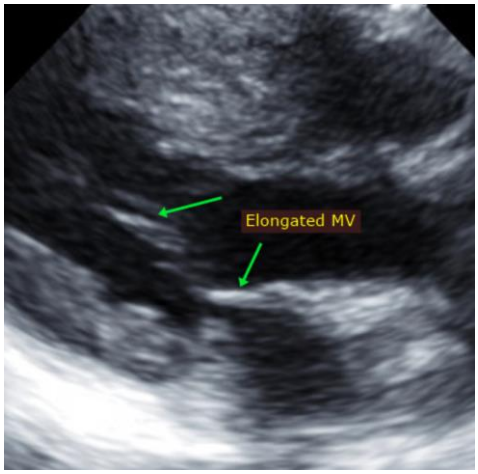
Risk for complication with steroid use typically follows LA dilation, which in this case is mildly elevated. That being said, any cat can experience unexpected signs of intolerance and monitoring of RR/RE is advised particularly in the initiation phase.

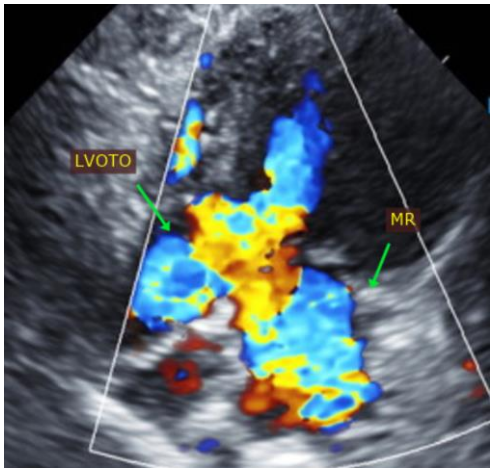
PLAN

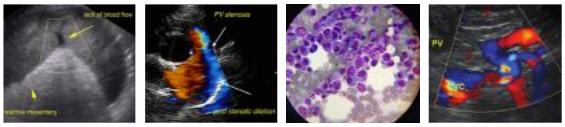
Administer titrating dose of atenolol: 25mg tablets; Give ¼ tab once daily. Recheck heart rate in 1-2 weeks with target stressed rate of 140-160bpm 12-24 hours post-administration. Increase as needed until target is reached. Screening blood pressure is recommended if possible.

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

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.

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