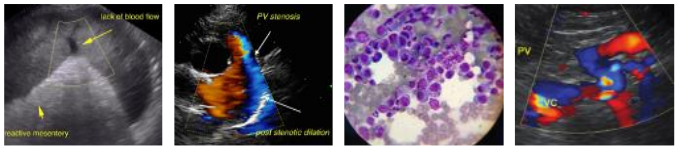
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Cloud Fritchey

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
1 year

WEIGHT
10.8lbs

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

IMAGING PERFORMED BY
Amanda Crook, SDEP

HOSPITAL NAME
Rivers Edge Pet Medical Center

REFERRING VET
Dr. Gray

INVOICE
30572

DATE
5/3/23

PRESENTING CLINICAL SIGNS

History: Long term abnormal respirations, gets tired quickly. Presents today with URI type symptoms. Grade 3/6 heart murmur. BP: 114, 106, 112mmHg.
-Abnormal PE/Chem/CBC/UA Results: Lab work WNL (litter mate FIV+)

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Cardiomegaly. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 10mm/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 rhythm.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is moderately hypertrophied. There is a mildly hyperechoic endocardium consistent with fibrosis. Mild papillary muscle hypertrophy. The right ventricle is normal. There is mild to moderate left atrial enlargement present with a horizontal component. Intraatrial smoke. No right atrial enlargement present. The RVOT velocity is normal. Abnormal anterior motion of the mitral valve is present, with the tip visible in the LVOT during systole (see below). Severely elevated LVOT velocity and dynamic profile. The anterior leaflet of the MV is thickened and elongated, consistent with dysplasia. There is moderate eccentric mitral regurgitation present (5.35m/s). 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	4.9	NM	0.65	1.2	0.70	43	79
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	1.6	1.6		6.2	1.5	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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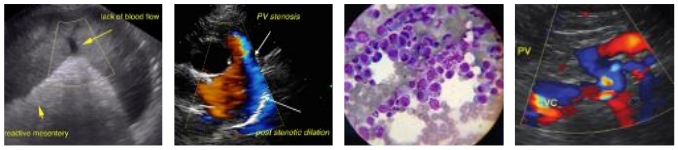

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The diagnosis and cause of the murmur is mitral valve dysplasia leading to moderate LV hypertrophy, moderate MR and an obstructive LVOT flow pattern. A primary HOCM component cannot be ruled out as a concurrent issue, however, is less likely given the age of the patient. There is mild to moderate left atrial dilation present, indicating the risk of spontaneous CHF and/or a thrombotic event is currently low however there is great concern for progression going forward. No additional congenital defects are observed; however, it is important to note that ultrasound is not entirely sensitive for small shunts/abnormalities. Consider referral to an attending Cardiologist for advanced diagnostics in any congenital case. The ECG is unremarkable with a normal sinus rhythm.

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 the young age of the cat, marked tachycardia and severity of today's findings this is highly recommended as below. Additionally, if the patient is easily medicated it is reasonable to continue Plavix as prescribed. If there is difficulty at home, this can likely be withheld until the rate of progression is determined in the future.

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

Elective anesthesia is not advised until rate of progression is determined.

Long term prognosis is guarded given the age of the patient, severity of hypertrophy and highly variable nature of asymptomatic feline heart disease. Many cats will remain asymptomatic until mid-life or beyond, while others develop CHF by mid-life. Close monitoring for progression to LA dilation in the future will help determine long term prognosis. Patient will always be at risk for progression to CHF, development of blood clots or arrhythmias, syncope and/or sudden death in the future.

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 reached. If able, continue blood thinner Clopidogrel (Plavix) 75mg tablets; give ¼ tab orally once daily (NOTE: this medication is very bitter on the cut edges).
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.

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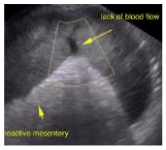
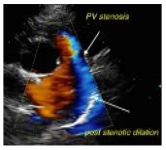
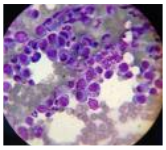
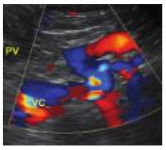

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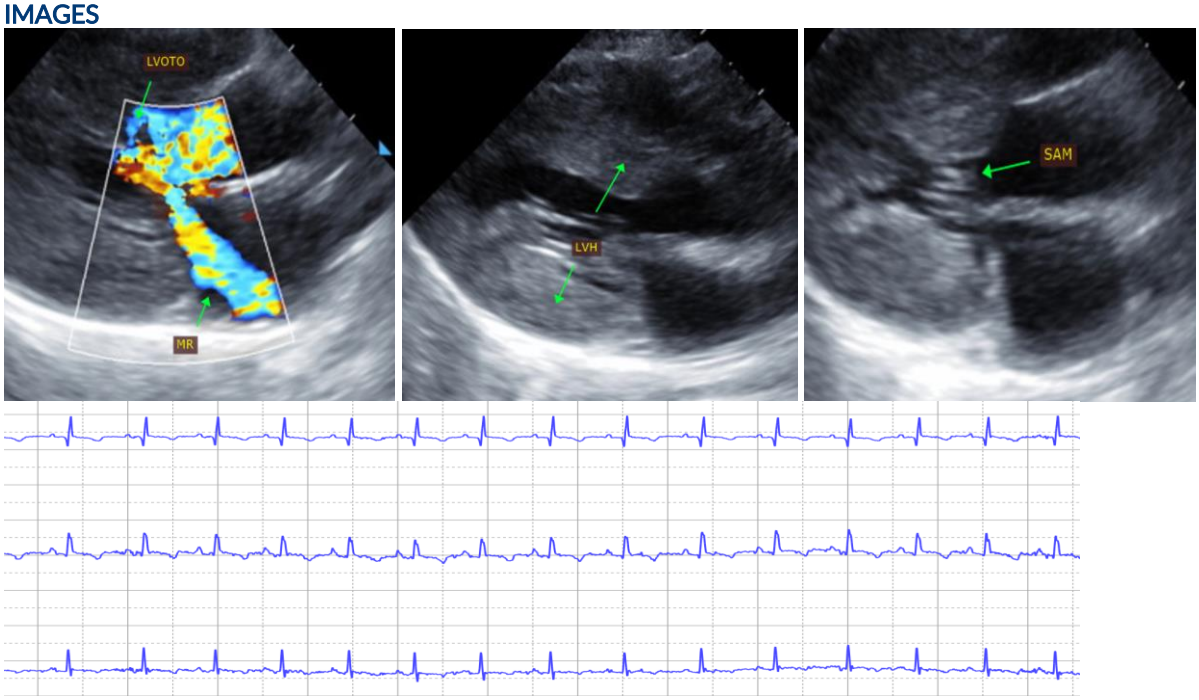
IMAGES



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