**PATIENT**

Hershey Shapiro

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Female Spayed

**AGE**

9.7.07

**WEIGHT**

13.8lbs

**INTERPRETED BY**Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)**HOSPITAL NAME**

Animal Care Center

**REFERRING VET**

Dr. Beavers

**INVOICE**

29275

**DATE**

2.28.23

**PRESENTING CLINICAL SIGNS**

History: New grade 3/6 murmur.

-Pertinent abnormal PE/Chem/CBC/UA Results: Lab work w/ Cardiopet all WNL.

-Current medications: No current medications.

-Sedation used: Not required to complete full diagnostic ultrasound.

-Pertinent previous ultrasound results: No previous.

-STAT: Not requested

-Imaging performed by: Stephanie Warga RDCS, RVT.

**ELECTROCARDIOGRAPHIC FINDINGS**

A six lead ECG is available at both 25 and 50mm/s; 5mm/mV. The average heart rate is 250bpm with a 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 is low voltage. The MEA is shifted left. A single VPC is identified. No supraventricular premature beats, pauses or other dysrhythmias observed.

ECG diagnosis: Sinus tachycardia with a single VPC. LAFB.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is minimally increased with diffuse remodeling and fibrosis. There is a diffusely hyperechoic endocardium consistent with fibrosis and ventricular remodeling. Mild papillary muscle remodeling. The right ventricle is subjectively normal in size and morphology. There no left atrial enlargement present. No right atrial enlargement present. Normal RVOT velocity. Mild systolic anterior motion (SAM) of the mitral valve present, with an elevated dynamic LVOT velocity. There is mild eccentric mitral regurgitation present secondary to SAM. No other significant valvular regurgitation is present. There is no pericardial effusion noted. No pleural effusion appreciated. No obvious cardiac tumors.

**CARDIAC CHART**

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) <small>(Moise, Pipers)</small>	LVIDd (cm) <small>(Moise, Pipers)</small>	LWVd (cm) <small>(Moise, Pipers)</small>	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	3.5-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	6.3	NM	0.60	1.0	0.59	57	90
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	NM	1.3	1.0		3.3	1.6	NM

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 is hypertrophic obstructive cardiomyopathy (HOCM). This indicates LV thickening (minimal in this case) with a dynamic LVOT obstruction (SAM) and secondary mitral regurgitation as the cause of the heart murmur. The hypertrophy and obstruction are both mild. There is no left atrial enlargement present, indicating the risk of spontaneous CHF and/or a thrombotic event is currently low. No additional issues are identified.

The ECG is primarily normal with a sinus tachycardia. A single VPC is appreciated, which is likely stress induced in this patient. Single abnormal beats are of low clinical concern; however, monitoring for any syncope is advised. An LAFB is noted, which is a benign bundle branch block common in older cats.

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. If the patient is easily medicated, it is reasonable to initiate at this time as below. If there is difficulty medicating at home, an alternative approach would be closely monitoring for progression in the next 6-12 months. Discussion with the owner is advised. No additional medications are indicated prior to significant atrial dilation.

Monitor at home for any respiratory signs or blood clot events (neurologic change, paralysis, etc.). Anesthetic risk is considered mild, however judicious IV fluid rates are advised to avoid fluid overload. Additionally drugs that stimulate heart rate should be avoided unless clinically necessary (ketamine, glycopyrrolate, atropine).

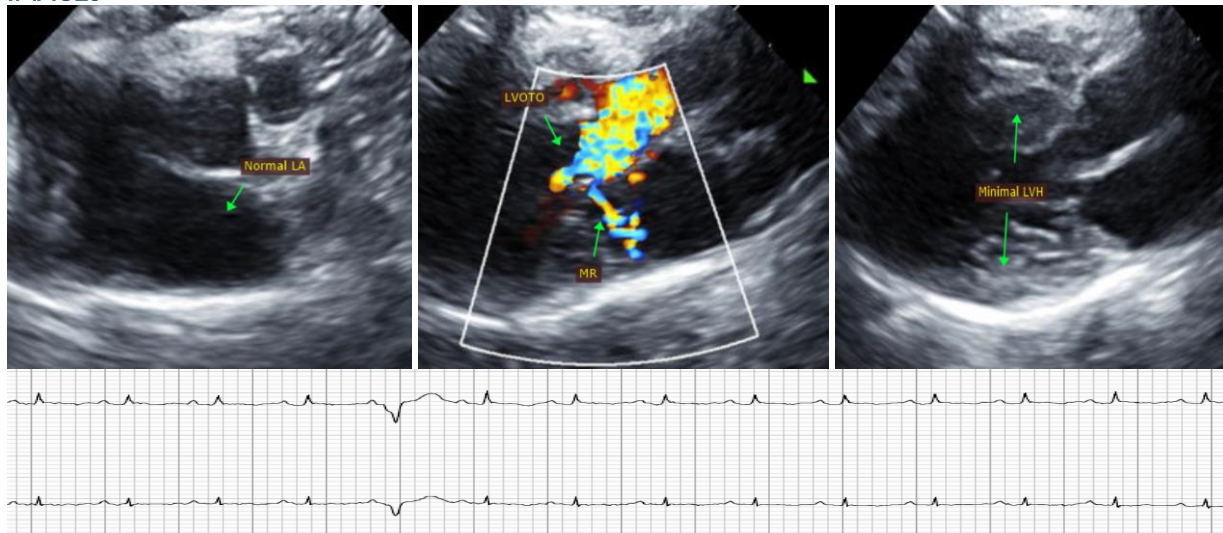
## PLAN

If elected, 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.

Screening blood pressure and T4 are recommended every 6 months.

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

## 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.

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