

**PATIENT**

Troy Mullins

**SPECIES**

Feline

**BREED**

DLH

**SEX**

Male Neutered

**AGE**

2.5.15

**WEIGHT**

5.5lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**HOSPITAL NAME**

Animal Care Center

**REFERRING VET**

Dr. Beavers

**INVOICE**

23285

**DATE**

3.25.22

**PRESENTING CLINICAL SIGNS**

History: Intermittent diarrhea for 3 weeks, appetite has been up and down in that time frame, occasional hairballs, acting normal, grade 3-4/6 murmur.

-Current medications: Metronidazole 30mg BID.

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

-Pertinent previous ultrasound results: No previous.

-STAT: REQUESTED

-Imaging performed by: Stephanie Pearce RDCS, RVT.

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

Cardiomegaly. No obvious evidence of CHF. Ascites noted.

**ELECTROCARDIOGRAPHIC FINDINGS**

A six lead ECG is available at both 25 and 50mm/s; 2mm/mV. The underlying rhythm appears sinus in origin, although sinus beats are rare. The sinus rate is 214bpm with easily identifiable P waves. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. Frequent supraventricular arrhythmias with heart rates up to 375bpm. No ventricular premature beats, pauses other dysrhythmias observed.

ECG diagnosis: Rapid paroxysmal SVT.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is irregular, with regions of mild hypertrophy contrasting regions of severe hypertrophy. The LV diameter is normal with adequate function. There is a diffusely hyperechoic endocardium consistent with fibrosis. Papillary muscle hypertrophied and hyperechoic. The right ventricle is subjectively normal in size and morphology. There is severe left atrial enlargement present with subtle smoke. No right atrial enlargement present. The aortic valve is normal. Normal LVOT and RVOT velocity. There is systolic anterior motion (SAM) of the mitral valve present, There is moderate eccentric mitral regurgitation present secondary to SAM. The tricuspid valve is normal with no TR. No other obvious valvular regurgitation is present. Scant pericardial and pleural effusion noted. No obvious tumors seen.

**CARDIAC CHART**

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) <small>(Moise, Pipers)</small>	LVIDd (cm) <small>(Moise, Pipers)</small>	LVWd (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	2.5	NM	0.68	1.1	0.81	66	95
FELINE CARDIAC PARAMETERS	LA/AO <small>(Boon)</small>	LA/AO HEART BASE (Swe) <small>(Abbott)</small>	LA 2D short axis Base view (cm) <small>(Abbott)</small>		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	2.5	2.0		3.1	NM	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

Hypertrophic obstructive cardiomyopathy (HOCM) indicates LV thickening with a dynamic LVOT obstruction (SAM). The LV thickening is irregular, with regions >0.8cm. There is also a significant LVOT obstruction. Most importantly severe left atrial dilation is present with a horizontal component, which confers an elevated risk for complication (spontaneous CHF and/or a thrombotic event). Subtle smoke is appreciated, further elevating this risk. Given the severity of these findings, I would institute full cardiac support as below even without clinical signs. This is due to the high risk for decompensation in the near future, particularly with scant pericardial and pleural effusions seen. Ascites is most likely secondary to cardiac decompensation as well, and assessing response to diuretics is recommended.

The ECG also shows a significant arrhythmia, with a paroxysmal SVT. This has likely developed secondary to severe cardiac disease and does warrant rate control therapy. Given the patient's asymptomatic status, instituting atenolol is a reasonable place to start with reassessment of the ECG in 5-7 days. If the arrhythmia persists, resubmitting the ECG is recommended for further guidance.

Assessment of progression in the future will help predict long term prognosis; however, given these findings is guarded to poor at this stage.

Ideally anesthesia should be avoided. If a sedated procedure is necessary, consider cardiac protective options such as Butorphanol or Alfaxalone.

Monitor at home for any respiratory issues, fainting/collapse and/or signs of blood clot events (neurologic change, paralysis, etc.). Patient will always be at risk for sudden death, and this should be expressed to the owner.

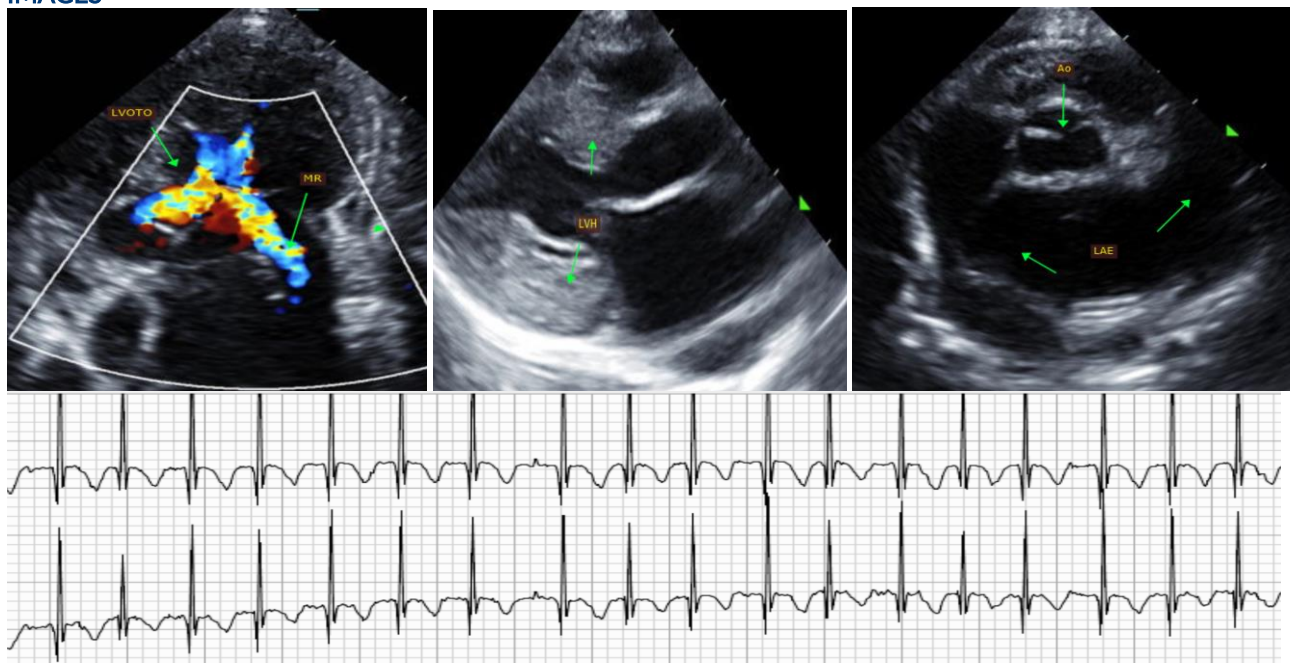
## PLAN

Institute Lasix 1-2mg/kg PO q12h. Institute Plavix 75mg tabs; Give ¼ tab by mouth every 24 hours (NOTE: bitter along cut edge, may cause foaming at the mouth; coat in entirety). Institute Atenolol 6.25mg PO q24h. Recheck ECG in 5-7 days to assess HR and arrhythmia. Goal is a sinus rhythm with HR 140-160bpm.

Recommend blood work, ECG and BP in 5-7 days as well to ensure tolerance of medications. If doing well at this visit and BP >130mmHg, institute ACEI 2.5mg PO q12h. Consider resubmit ECG for further arrhythmia guidance.

Recommend recheck echocardiogram and ECG in 6 months, sooner if clinical signs 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.

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