



**PATIENT**

Violet Cutler

**SPECIES**

Feline

**BREED**

Sphynx

**SEX**

Female Spayed

**AGE**

4 months

**WEIGHT**

4lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Kim Liedberg

**HOSPITAL NAME**

SVS Imaging WI

**REFERRING VET**

Dr. Lamont

**INVOICE**

24495

**DATE**

5/31/22

**PRESENTING CLINICAL SIGNS**

History: Grade 2/6 sternal heart murmur noted on routine physical exam. Assess prior to anesthesia.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is normal in dimension. LV chamber is normal to mildly increased in diastole. There is a mildly hyperechoic endocardium consistent with fibrosis. The papillary muscles appear normal. The endocardium also appears normal. The left atrium is mildly dilated for this body size. The right atrium is mildly dilated. The right ventricle appears normal. The mitral valve is normal in structure and mobility. Trace MR. Trace TR. Blood flow through both the LVOT and RVOT is normal in velocity. No pleural or pericardial effusion seen. No obvious cardiac tumors.

**CARDIAC CHART**

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) (Moise, Pipers)	LVIDd (cm) (Moise, Pipers)	LWVd (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	1.8	216	0.39	1.2	0.37	50	94
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	1.4	1.1		1.6	1.0	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**

Essentially normal cardiac structure and function are seen in this study. The LV wall thickness is normal with adequate systolic function. What is concerning is both atria appear mildly dilated and the LV is borderline enlarged as well; however, these are of unknown significance in a kitten without obvious structural changes. No obvious congenital defects such as shunts are visualized as a possible explanation. No cause of the murmur is seen here, as trace MR/TR are unlikely to be heard on exam. Serial echocardiography will be necessary to determine progression of these findings. No additional issues are identified.

Any congenital case without a definitive murmur diagnosis should consider a referral as the gold standard option. Small abnormalities are easily missed and may or may not be the case here (ie a flow murmur is possible). The image quality is good in this case; however, mild biatrial enlargement is always concerning. Discussion with the owner is advised. An alternative approach would be to simply reassess at 6-12 months of age.

Prognosis is open prior to further evaluation.



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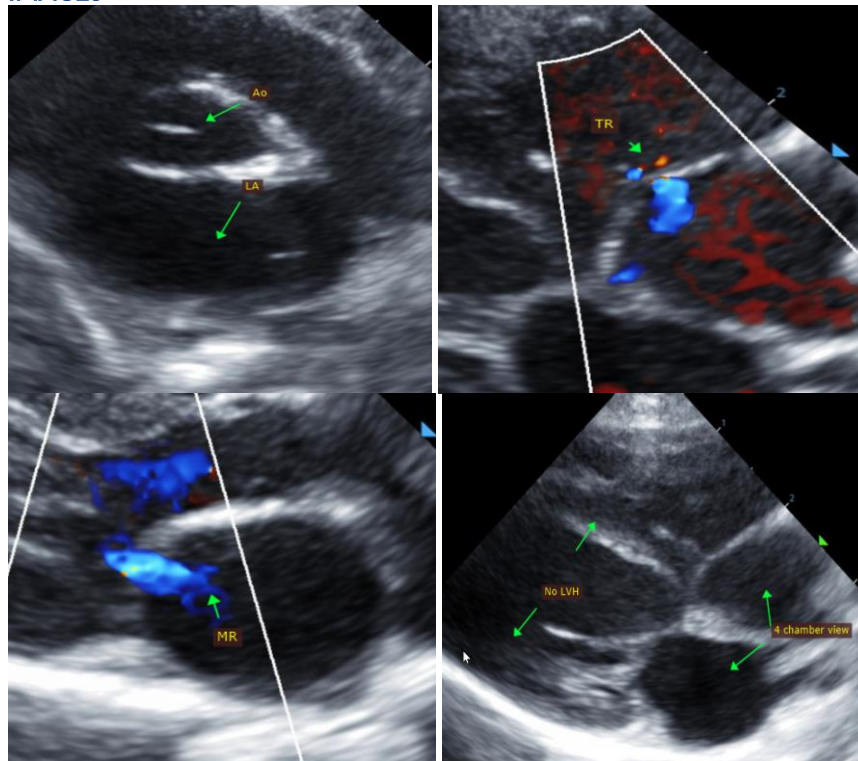
5/31/22

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 (glycopyrrolate, atropine). Avoid vasodilators as this may worsen the obstruction. A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance. Additionally, steroids should be used with caution on older cats, as even a 'normal' heart can develop evidence of intolerance and fluid retention.

**PLAN**

Consider referral in this case. If declined, recommend recheck echocardiogram at 6-12 months of age, sooner if any clinical signs arise.

**IMAGES**



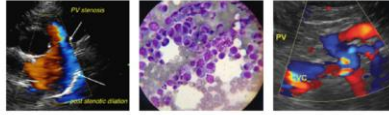
The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. 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

**IMAGING PERFORMED BY**

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