



**PATIENT**

Violet Habecker

**PRESENTING CLINICAL SIGNS**

History: Grade 3/6 heart murmur. Chronic cough.  
-Abnormal PE/Chem/CBC/UA Results: ProBNP 147, K 3.1, Glucose 205. UA: pyuria, bacteriuria.

**SPECIES**

Feline

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is normal in dimension. There is a diffusely hyperechoic endocardium consistent with fibrosis. The endocardium also appears mildly remodeled. The papillary muscles appear mildly remodeled. The left atrium is normal in size. The right atrium is normal in size. The right ventricle appears normal. The tricuspid valve appears normal in structure and mobility. Trace tricuspid regurgitation. The mitral valve is normal in structure and mobility. No mitral regurgitation. Blood flow through the RVOT is mildly elevated in velocity based upon Doppler and color flow, likely secondary to tachycardia creating a benign outflow tract obstruction. Blood flow through the LVOT appears normal with no evidence of obstruction. Trace AI. No evidence of cardiac tumors or metastatic lesions on this scan.

**BREED**

DSH

**SEX**

Female Spayed

**AGE**

16 years

**CARDIAC CHART**

**WEIGHT**

10.2lbs

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	4.7	NM	0.40	1.4	0.43	43	80
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	1.3	1.4	1.3		1.0	2.2	NM

**INTERPRETED BY**

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Karen Ebersole, DVM, DABVP

*\*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.

**HOSPITAL NAME**

Scanvet

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The only cause of a murmur identified is a heart rate dependent flow obstruction through the right ventricle (DRVOTO), which is a physiologic finding (i.e., benign and of little clinical significance). This type of flow murmur will wax and wane secondary to tachycardia and volume changes. There is however a significant amount of LV remodeling and fibrosis, which may be indicative of early pathology or simply represent a normal variant. Regardless the left atrial dimension is normal, and there is minimal risk for complication at this time. Serial echocardiography will be necessary to determine progression and clinical relevance in the future. A small aortic insufficiency is noted, and a baseline BP is recommended. No additional issues are identified.

**REFERRING VET**

Dr. Norman

**INVOICE**

30584

**DATE**

5/3/23



**PATIENT**

Violet Habecker

These findings are unlikely to explain an elevated BNP, which may be a false-positive. Consider ruling out ancillary causes for elevation, such as renal disease or hypertension. No cardiac cause for the cough is appreciated in this study.

**SPECIES**

Feline

If needed, the risk for general anesthesia is low, however heart rate stimulating drugs such as atropine, glycopyrrolate or ketamine should be avoided unless medically necessary. Even without significant pathology, with this degree of remodeling and diastolic stiffening there is a mildly elevated risk for fluid overload in this patient. Judicious IV fluid use is recommended.

**BREED**

DSH

Additionally, a screening blood pressure is recommended in any older cat prior to general anesthesia.

**SEX**

Female Spayed

Given these findings, no medications are indicated at this time.

**AGE**

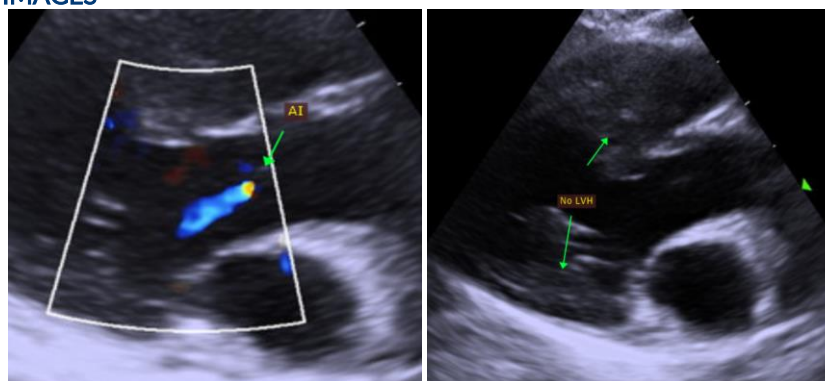
16 years

Recommend recheck echocardiogram in 1 year to assess for progression or development of disease the pre-existing murmur may mask.

**WEIGHT**

10.2lbs

**IMAGES**



**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

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.

**IMAGING PERFORMED BY**

Karen Ebersole,  
DVM, DABVP

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.

**HOSPITAL NAME**

Scanvet

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

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