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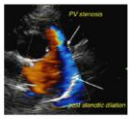
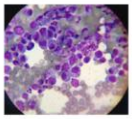
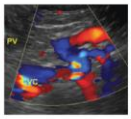

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT
Snookie Holley

SPECIES
Feline

BREED
DSH

SEX
Female Spayed

AGE
11 years

WEIGHT
6.5lbs

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

IMAGING PERFORMED BY
Kim Liedberg

HOSPITAL NAME
SVS Imaging WI

REFERRING VET
Dr. McDonough

INVOICE
25866

DATE
8/18/22

PRESENTING CLINICAL SIGNS

History: Grade 4/6 new heart murmur noted on annual exam. ProBNP normal, T4 normal. Dental disease as noted. Assess prior to dental. 100mg gabapentin give prior to echo.

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. Blood flow through the LVOT appears normal with no evidence of obstruction. The right atrium is mildly enlarged. The right ventricle appears normal. The tricuspid valve appears normal in structure and mobility. No tricuspid regurgitation. The mitral valve is normal in structure and mobility. Trace 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. No evidence of cardiac tumors or metastatic lesions on this scan.

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	2.9	212	0.44	1.1	0.40	54	88
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	1.4	1.2	1.2		1.2	1.94	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

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. Finally, the right atrium is mildly enlarged, which is of unknown significance. Serial echocardiography will be necessary to determine progression and clinical relevance of all findings in the future.

Given these findings, no medications are indicated at this time. Prognosis is guarded prior to assessing for progression.

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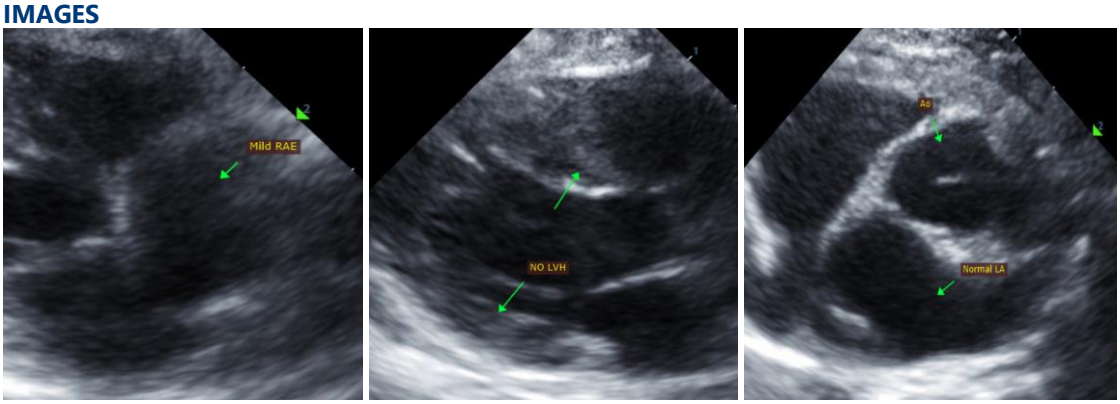
If needed, the risk for general anesthesia is low, however heart rate stimulating drugs such as atropine, glycopyrrolate or ketamine should be avoided unless medically necessary. Even without significant pathology, with this degree of remodeling and diastolic stiffening there is a mildly elevated risk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

Risk for complication with steroid use typically follows LA dilation, which in this case is low. That being said, any cat can experience unexpected signs of intolerance and monitoring of RR/RE is advised particularly in the initiation phase.

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

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