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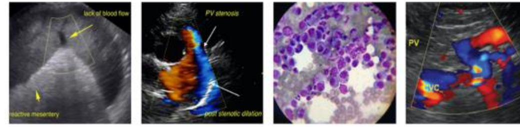

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
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PATIENT
Percy Sanderson

SPECIES
Feline

BREED
DSH

SEX
Male

AGE
3 Months

WEIGHT
4.5lbs

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

IMAGING PERFORMED BY
Rebekah Jakum, CVT ARDMS/RVT

HOSPITAL NAME
Maple Hills Veterinary Hospital

REFERRING VET
Dr. Eckman

INVOICE
25921

DATE
8/22/22

PRESENTING CLINICAL SIGNS

History: Grade 3/6 heart murmur. Assess prior to anesthesia. Sedation: Butorphanol.

ECHOCARDIOGRAM FINDINGS *visualization limited by patient cooperation/tachycardia.

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is irregular with mild to moderate overall hypertrophy. There is a mildly hyperechoic endocardium consistent with fibrosis. Mild papillary muscle remodeling. The right ventricle is normal. There is mild left atrial enlargement present. No right atrial enlargement present. Normal RVOT velocity. Abnormal anterior motion of the mitral valve is present on multimodal imaging. Mildly elevated LVOT velocity is seen on color-flow and Spectral doppler with a dynamic profile. The anterior leaflet of the MV is mildly elongated and thickened, consistent with dysplasia. There is mild eccentric mitral regurgitation present. Mild TR. No other obvious valvular regurgitation is present. No obvious intra or extracardiac shunts seen. There is no pericardial effusion noted. No pleural effusion appreciated.

CARDIAC CHART

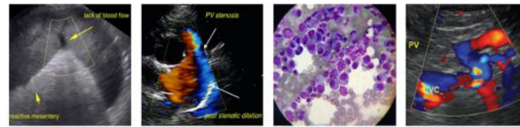
FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) (Moise, Pipers)	LVIDd (cm) (Moise, Pipers)	LVWd (cm) (Moise, Pipers)	FS (%)	EF (%)
NORMAL PARAMETER	------	150-240	0.35-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	1.9	240	0.68	1.1	0.65	69	96
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO 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	1.6	1.2		3.2	1.8	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 suspected diagnosis and cause of the murmur is mitral valve dysplasia leading to mild LV hypertrophy, mild MR and an obstructive LVOT flow pattern. There is mild left atrial dilation, indicating the risk of spontaneous CHF and/or a thrombotic event is currently low. That being said, mild LA dilation at such a young age is certainly concerning for progression in the future. The diagnosis is considered suspect, as visualization is limited due to patient cooperation and tachycardia. Consider reassess with more aggressive sedation and/or consider referral in any congenital cause.

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. In cases of solely primary MV dysplasia this can lead to improvement in the degree of obstruction and hypertrophy. Given today's findings it is reasonable to initiate this going forward. That being said, the patient is quite young, and I would not start the medication until 6 months of age if referral is declined.



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Monitor at home for any respiratory signs or evidence of blood clot events (neurologic change, paralysis, etc.). No obvious indication for activity restriction at this time.

Anesthetic risk is considered mild. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Mild IV fluid restriction is recommended to avoid fluid overload. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

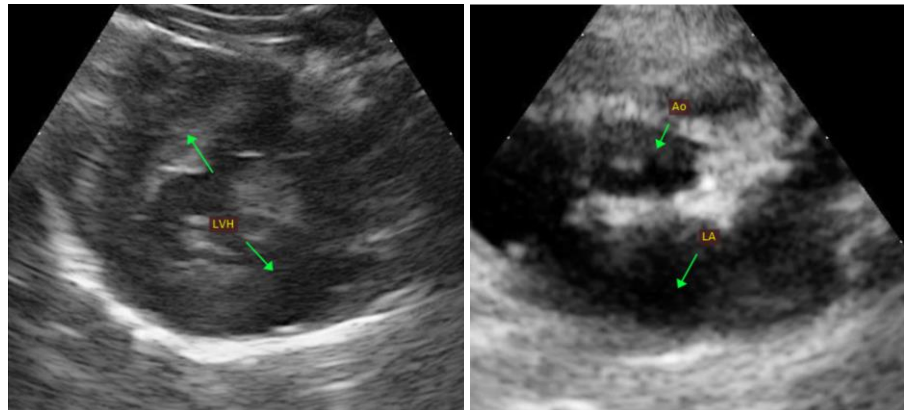
Long term prognosis is guarded given the age of the patient and highly variable nature of asymptomatic feline heart disease. Many cats will remain asymptomatic until mid-life or beyond, while others develop CHF within the first years. Close monitoring for progression to LA dilation in the future will help determine long term prognosis.

PLAN

Consider referral as discussed. Consider repeat imaging with more heavy sedation. If referral is declined and once 6 months, institute 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.

Recommend recheck echocardiogram in 6 months to assess for progression and response to therapy, 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.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)