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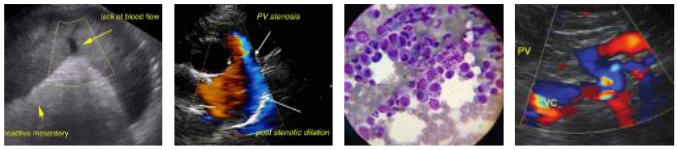


PATIENT
Libby Laminski

SPECIES
Feline

BREED
Bengal

SEX
Female

AGE
1 year

WEIGHT
7lbs

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

IMAGING PERFORMED BY
A. Westcott, DVM

HOSPITAL NAME
Alastair Westcott, DVM

REFERRING VET
Dr. Westcott

INVOICE
32274

DATE
8/9/23

PRESENTING CLINICAL SIGNS

History: Grade 3/6 heart murmur on preanesthetic evaluation. That diet at that time was raw tuna.
-Radiographs report: Showed cardiomegaly with right heat enlargement. No CHF.
-ECG report: Showed tall R waves with an axis deviation.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The mitral valve leaflets are mildly thickened with no obvious prolapse into the left atrial lumen. Mild double jet of mitral regurgitation. Normal left atrial dimension. Normal LV diameter with adequate myocardial function. The LV wall is borderline increased for this body size. The tricuspid valve appears normal trace tricuspid regurgitation. Mild right atrial enlargement. No right ventricular dilation with moderate hypertrophy indicative pressure overload. Mild documented elevation of blood flow velocity through the mid-RV (suspected to be an underestimation), most consistent with a double chamber right ventricle. A distinct ridge is difficult to visualize. Normal flow through the pulmonary artery. The PV appears normal with trace PI. No dilation of the main pulmonary artery and peripheral branches. The aortic valve appears to have normal morphology and mobility. No aortic insufficiency. No pericardial or pleural effusion noted. No obvious intra or extra-cardiac shunts.

CARDIAC CHART

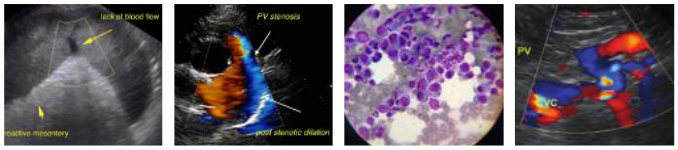
FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) (Moise, Pipers)	LVIDd (cm) (Moise, Pipers)	LVWd (cm) (Moise, Pipers)	FS (%)	EF (%)
NORMAL PARAMETER	------	150-240	0.35-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	3.2	NM	0.50	1.0	0.49	40	76
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**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	1.1	1.0		0.9	1.4	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 cause of the murmur is elevated flow velocity through the RVOT/proximal pulmonary artery. This is most consistent with a double chamber right ventricle (DCRV), which is the suspected diagnosis. The max flow through the region is 3m/s; however, based upon the severity of RV hypertrophy this is thought to be an underestimation. Mild right atrial enlargement suggests the risk for complication may be elevated going forward. The mitral valve is also mildly abnormality with mild double jet of MR. The hemodynamic consequence of this is likely minimal; however, monitoring is recommended.

Due to the unusual nature of these findings, referral to a Cardiologist should always be considered in any congenital case for advanced imaging and lifelong monitoring. That being said if



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referral is declined or not possible, Atenolol is recommended for potential long-term benefit. This will slow the heart rate and hopefully relieve the significant pressure gradient through the region.

Prognosis is guarded long term. What is seen here is hemodynamically significant in a 1-year-old cat and may limit life span with risk for right-sided CHF, development of syncope and/or sudden death going forward. The diet is also of concern and a well-formulated cat food is recommended going forward.

Anesthetic risk is mild to moderate at this time. **Avoid heart rate stimulating drugs such as atropine or glycopyrrolate unless absolutely necessary**. Avoid vasodilators such as acepromazine. Mild IV fluid restriction is advised. Cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, isoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 if possible. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary.

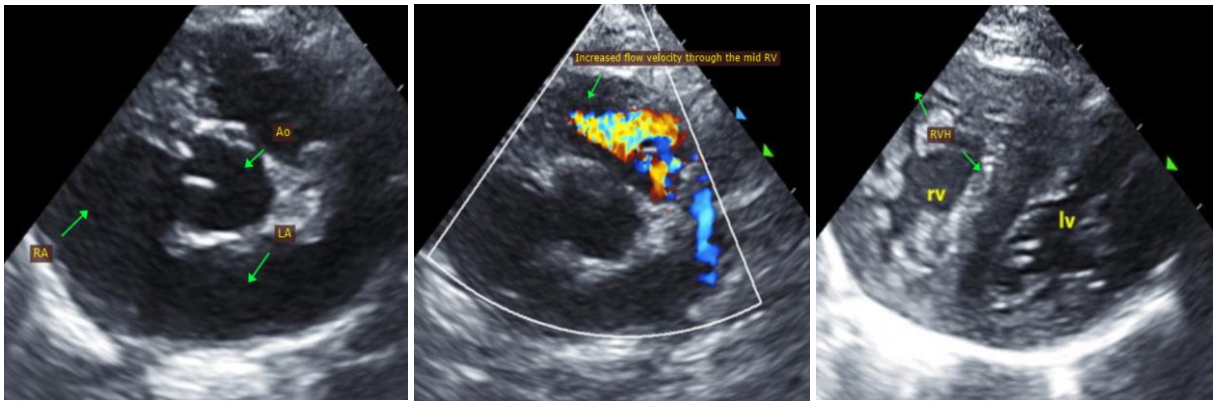
Monitor for development of associated clinical signs (collapse, abdominal distention, cough, labored breathing). Mild exercise restriction is advised.

PLAN

Consider referral as discussed. If declined, consider institute Atenolol 6.25mg PO q24 hours and up-titrate to effect; target heart rate is <140bpm stressed.

A recheck echocardiogram is recommended in 6 months, 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. 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
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