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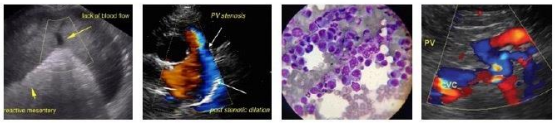


THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

PATIENT
Ricky Warner

SPECIES
Feline

BREED
DSH

SEX
Male

AGE
11 months

WEIGHT
10.6lbs

INTERPRETED BY
Maggie Machen Lamy, DVM DACVIM (Cardiology)

IMAGING PERFORMED BY
Crystal Hill, RVT

HOSPITAL NAME
Dog and Cat Clinic of Niagara

REFERRING VET
Dr. Sneider

INVOICE
25933

DATE
8/22/22

PRESENTING CLINICAL SIGNS

History: Grade 4/6 heart murmur. Assess prior to anesthesia.
Current medications: Fortekor 2.5mg.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is mildly hypertrophied with regions of asymmetry. There is mildly hyperechoic endocardium consistent with fibrosis and ventricular remodeling. Mild papillary muscle hypertrophy. The right ventricle is subjectively normal in size and morphology. There is no left atrial enlargement present. No right atrial enlargement present. Abnormal anterior motion of the mitral valve is suspected on color flow and Spectral doppler (unable to be visualized on 2D imaging). The anterior leaflet of the MV is mildly elongated and thickened, although not extensively visualized. There is mild mitral regurgitation present. Normal velocity. No other obvious valvular regurgitation is present. Normal RVOT velocity is noted. 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	4.8	174	0.68	1.5	0.67	54	87

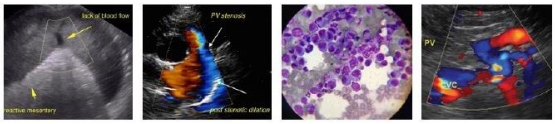
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Swe) (Abbott)	LA 2D short axis Base view (cm) (Abbott)	LVOT VEL (m/s)	RVOT VEL (m/s)	E max (m/s)
NORMAL	<1.5	<1.3	<1.2	<1.6	<1.3	<0.9
PATIENT	NM	1.1	1.0	2.8	1.0	NM

**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

The presumptive diagnosis and cause of the murmur is mitral valve dysplasia leading to LV hypertrophy and an obstructive LVOT flow pattern. A primary hypertrophic component also contributing cannot be ruled out prior to assessing response to therapy; however, this is unlikely in a 1yo patient. There is no left atrial dilation, indicating the risk of spontaneous CHF and/or a thrombotic event is currently low. The degree of MR is mild, which is considered secondary to abnormal valve motion. No additional issues are identified.

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 these findings it is reasonable to initiate at this time as below



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(particularly in light of tachycardia). No known benefit to an ACEI at this phase, and this can be discontinued. Monitor at home for any respiratory signs or blood clot events (neurologic change, paralysis, etc.).

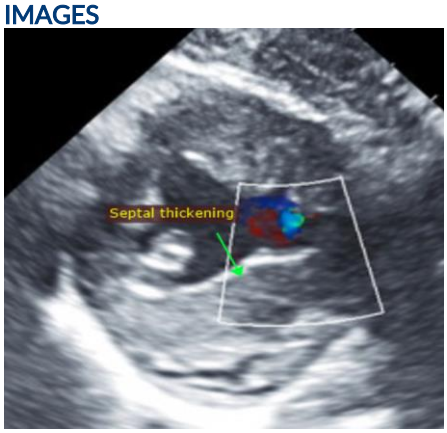
Anesthetic risk is considered mild, however judicious IV fluid rates are advised to avoid fluid overload. Additionally, drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine). Avoid vasodilators as this may worsen the obstruction. A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance. Additionally, steroids should be used with caution, as even a 'normal' heart can develop evidence of intolerance and fluid retention.

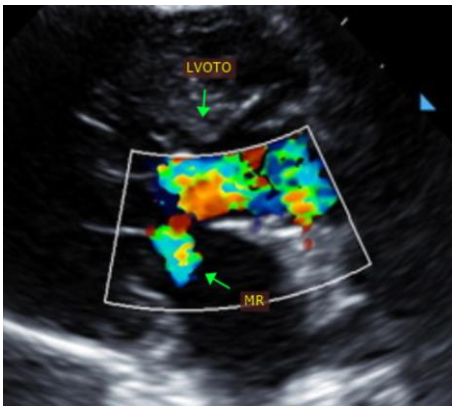
PLAN

Administer 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. Discontinue ACEI.

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)
info@sonopath.com

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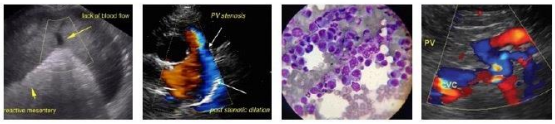

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