Charleston Mobile Veterinary Services

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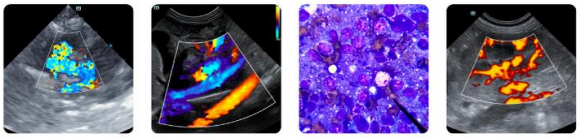

Clinical Sonography & Telecytology

Educational Teleconsultation Services™

PATIENT

Clementine Varn

SPECIES

Feline

BREED

DSH

SEX

Female Spayed

AGE

3 years

WEIGHT

NP

INTERPRETED BY

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY

A. Nicastro, DVM

HOSPITAL NAME

VCA Westbury Animal Hospital

REFERRING VET

Dr. Cantrell

INVOICE

46196

DATE

12/15/25

PRESENTING CLINICAL SIGNS

History: Grade 4/6 heart murmur. Tachycardia. Recent episode of lateral recumbency, with some leg twitching, pupil dilation that owner witnessed, per owner recovery after about 2 minutes

ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 220bpm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus tachycardia.

ECHOCARDIOGRAM FINDINGS

2D, m-mode and color flow imaging is available. The left ventricular wall is normal, with a focal septal hypertrophy. There is a 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 motion of the mitral valve is present. The anterior leaflet of the MV is elongated and thickened, consistent with dysplasia. There is mild to moderate mitral regurgitation present. A dynamic RVOT obstruction is seen. There is no pericardial or pleural effusion appreciated. No obvious cardiac tumors.

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	NP		0.65	1.45	0.45	49	85
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	1.2	1.1		2.0	2.5	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 focal 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 3yo patient with only focal thickening. There is no left atrial dilation, indicating the risk of spontaneous CHF and/or a thrombotic event is currently low. No additional issues are identified and the ECG is normal with a sinus tachycardia.

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

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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 (particularly in light of tachycardia).

Even with mild changes seen here, the described episode is inconsistent with exertional syncope. If the episodes recur, further work up/neurologic evaluation is advised.

Monitor at home for any respiratory signs or blood clot events (neurologic change, paralysis, etc.).

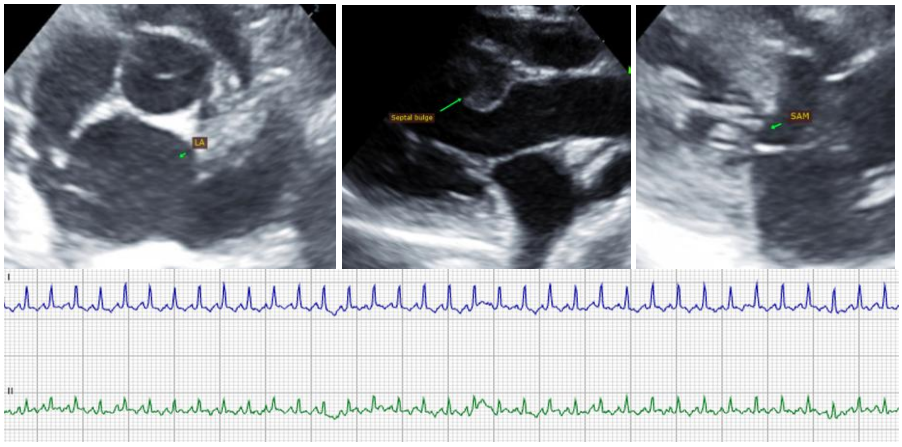
Anesthetic risk is considered mild, however judicious IV fluid rates are advised to avoid fluid overload. Additionally, drugs that stimulate heart rate should be avoided unless clinically necessary (glycopyrrolate, atropine). Avoid vasodilators as this may worsen the obstruction. A reasonable protocol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

Recommend recheck echocardiogram in 6-12 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
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