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Clinical Sonography & Telecytology

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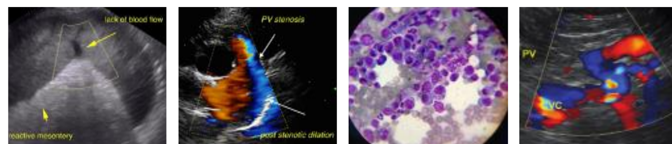


PATIENT
Johnnie Walker Miller

SPECIES
Feline

BREED
DLH

SEX
Male Neutered

AGE
13 years

WEIGHT
12.38lbs

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

IMAGING PERFORMED BY
Dana Alterman, RDCS, LVT

HOSPITAL NAME
Eubank Animal Clinic

REFERRING VET
Dr. Martin

INVOICE
24214

DATE
5/16/22

PRESENTING CLINICAL SIGNS

History: Murmur. Arrhythmia. Chronic Diarrhea. On Gabapentin for pain.
Radiographs: Biatrial enlargement.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

A single lead ECG is available; 50mm/s, 20mm/mV. Two competing rhythms are seen with two opposing morphologies. P waves are not consistently identifiable throughout; however, the small complex is suspected to reflect the sinus beat. The heart rate ranges from 130-160bpm with an irregular rhythm. A single VPC is clearly identified. No atrial premature beats, pauses or other dysrhythmias observed.
ECG diagnosis: Multiform supraventricular arrythmias with a normal resting heart rate; open for diagnosis. Single VPC.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is normal in dimension. There is a mildly hyperechoic endocardium consistent with fibrosis. The LV is mildly dilated with depressed myocardial function. The papillary muscles are mildly remodeled. The left atrium is severely dilated and bulbous in appearance. The right atrium is mildly increased in size. The right ventricle appears normal. The mitral valve is normal in structure and mobility. Mild MR. Mild TR. Normal velocity. Blood flow through both the LVOT and RVOT is normal in velocity. No pleural or pericardial effusion seen. No obvious cardiac tumors.

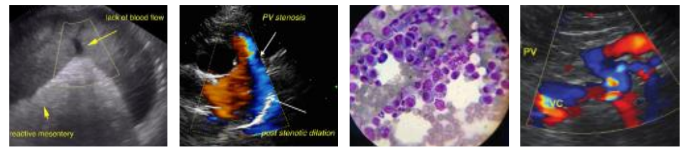
CARDIAC CHART

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	5.6	NM	0.53	2.1	0.50	28	50
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	2.1	2.1		1.2	0.8	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 finding of severe LA dilation in the face of essentially normal LV wall thickness with systolic dysfunction is most consistent with unclassified/restrictive cardiomyopathy (R/UCM), however some prior infectious or inflammatory insult to the myocardium cannot be definitively ruled out. There is normal wall thickness, ruling out typical hypertrophic disease. The right heart is also affected with mild atrial enlargement. Echocardiography will be helpful to confirm the diagnosis and assess for progression.



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Regardless of categorical classification, the finding of severe left atrial dilation is highly concerning as there is high risk for clinical decompensation in the near future, and lifelong medications are warranted as below including low dose diuretic therapy and off-label Pimobendan. The mean survival time for cats once CHF develops is 8-12 months, however most are able to maintain a good quality of life on medications. There will always remain risk for progression to CHF and development of blood clots in the future. Monitoring of sleeping breathing rates at home is recommended as the best way to screen for CHF at home.

The ECG is unfortunately non-diagnostic, which is often a limitation of single-lead tracings in cats. There are 2 competing rhythms/morphologies, resulting in an irregular heart rhythm. A single VPC is identified, which is not surprising given the degree of disease. While a six-lead tracing would certainly be ideal for a definitive diagnosis, what can be said is treatment is not warranted at this time. Monitor for any acute syncope or lethargy, as this may reflect a more sustained arrythmia.

Elective anesthesia, fluid or steroid therapy is not advised.

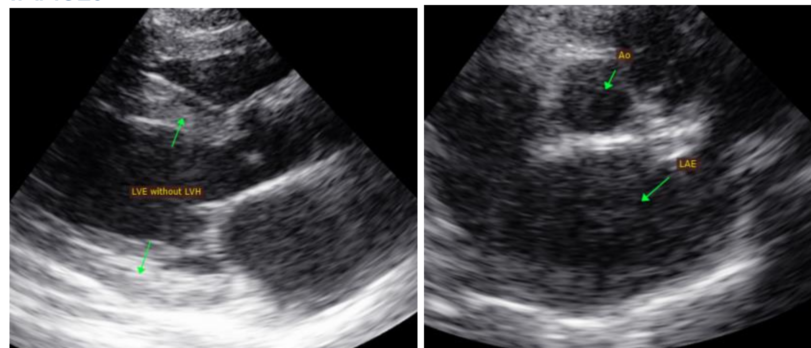
PLAN

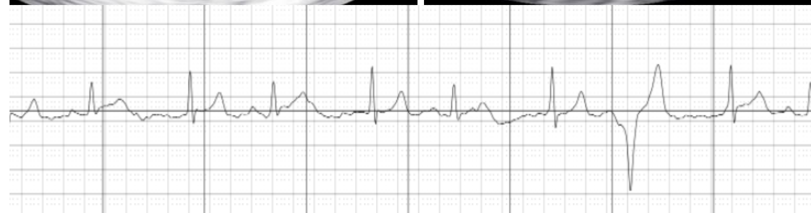
Consider a six-lead ECG as discussed. Institute diuretic Lasix 1mg/kg PO q12h. Institute blood thinner Clopidogrel (Plavix) 75mg tablets; give ¼ tab orally once daily (NOTE: this medication is very bitter on the cut edges). Institute Pimobendan 1.25mg PO q12h. *Note: If patient is difficult to medicate, Pimobendan and Plavix would be most important.

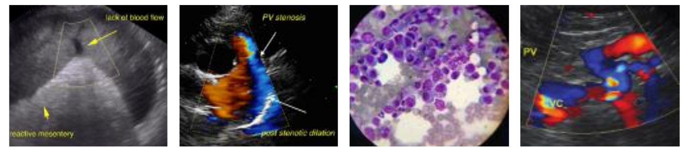
Recheck renal values and BP in 10-14 days to ensure tolerance of medications, then every 4-6 months lifelong. If BP is >130mmHg and patient is easily medicated, institute ACE-I 0.5mg/kg PO q12h.

A recheck echocardiogram is recommended in 6 months to assess progression.

IMAGES







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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