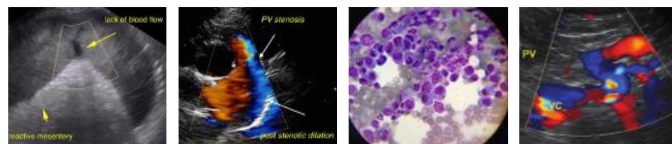
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com™
1-800-838-4268 info@sonopath.com

PATIENT
Valentino Mikkelson

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
8 years

WEIGHT
9.7lbs

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

IMAGING PERFORMED BY
Jennifer Todd, DVM

HOSPITAL NAME
Lambs Gap Animal Hospital

REFERRING VET
Dr. Kinney

INVOICE
28937

DATE
2/13/23

PRESENTING CLINICAL SIGNS

History: Grade 3/6 heart murmur. History of FLUTD (no medical records for FLUTD). Increased RR with mildly increased respiratory effort. BP: 128, 126, 126mmHg,
-Abnormal Lab work: ProBNP 1078, SDMA 116,
-Radiographs: Moderate cardiomegaly, "suspect mild asthma".

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; 25mm/s, 10mm/mV. The average heart rate is 210bpm with a largely regular rhythm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P morphology is positive. Isolated premature beats are identified; singles only. Suspected to be ventricular in origin. No other dysrhythmias observed.
ECG diagnosis: Normal sinus tachycardia with isolated premature beats. Suspect VPCs.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is normal with a borderline free wall dimension. There is a diffusely hyperechoic endocardium consistent with fibrosis. The papillary muscles are remodeled. Mild LV dilation. Adequate systolic function. The left atrium is markedly dilated and bulbous in appearance. Subtle spontaneous contrast (smoke) seen. The right atrium is normal. The right ventricle is normal. The mitral valve appears normal, although mild thickening is appreciated. Moderate central MR. Normal velocity. Blood flow through both the LVOT and RVOT is decreased in velocity. Trace TR. Scant/small volume pericardial effusion seen. No pleural effusion seen. No obvious cardiac tumors.

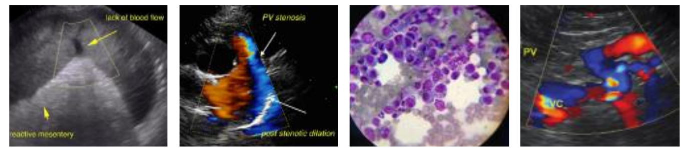
CARDIAC CHART

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	4.4	NM	0.57	1.9	0.44	43	77
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	3.0	3.2	2.7		0.7	0.6	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 marked left atrial enlargement in the face of essentially normal LV wall thickness is most consistent with Unclassified Cardiomyopathy (UCM); however, RCM or end-stage HCM can also have this appearance. There is no significant hypertrophy, ruling out typical hypertrophic disease. The right heart is normal. Echocardiography will be helpful to confirm the diagnosis and assess for progression going forward.



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Most concerning is the finding of both scant/small volume pericardial effusion and marked LA enlargement, which is consistent with early congestive failure. **Lifelong medications are warranted as below including diuretic therapy and off-label use of 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 recurrent CHF, development of blood clots, and/or malignant arrhythmias/sudden death in the future. Monitoring of sleeping breathing rates at home is recommended as the best way to screen for recurrent/impending CHF at home.

The ECG is largely normal with isolated premature beats. VPCs are suspected, although a six-lead tracing will be necessary to confirm. Regardless, what is seen here does not warrant therapy and is not surprising given the degree of disease. Close monitoring for signs of sustained arrythmias is recommended, such as acute collapse. This patient is certainly at risk for sudden death and this should be expressed to the owner.

Anesthesia, fluid or steroid therapy should be avoided in this case lifelong.

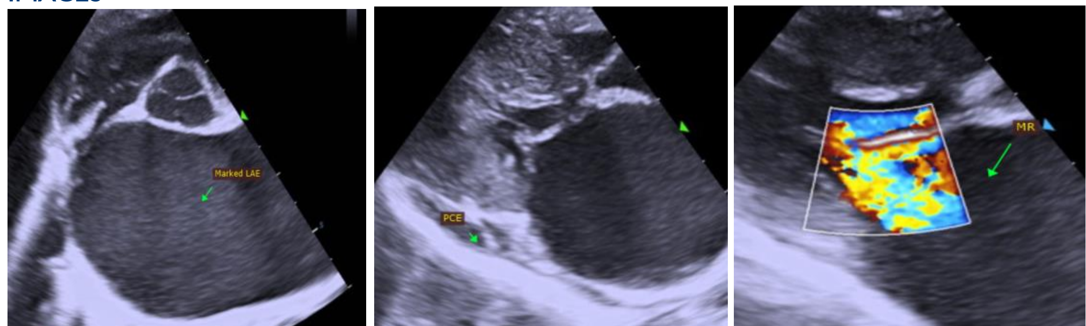
PLAN

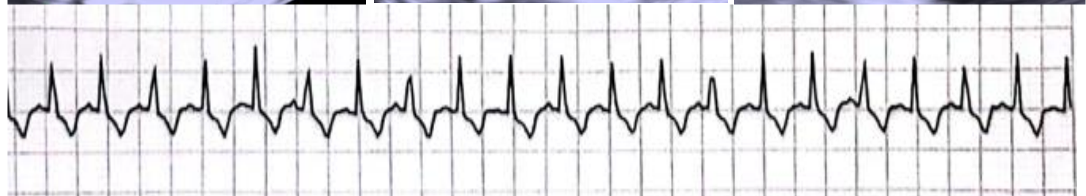
Institute diuretic Lasix 1mg/kg PO q12h. If able, institute blood thinner Clopidogrel (Plavix) 75mg tablets; give ¼ tab orally once daily (NOTE: this medication is very bitter on the cut edges). Institute Pimobendan 1.25mg PO BID. *Note: If patient is difficult to medicate, Lasix and Plavix would be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

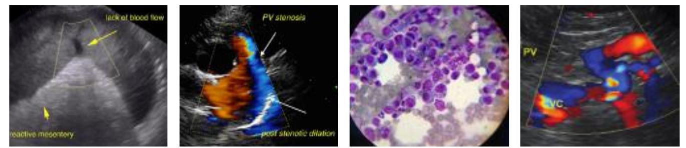
Recheck renal values in 10-14 days to ensure tolerance of medications. If doing well, able to be medicated and blood pressure is >130mmHg, institute ACE-I 0.5mg/kg PO q12h.

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