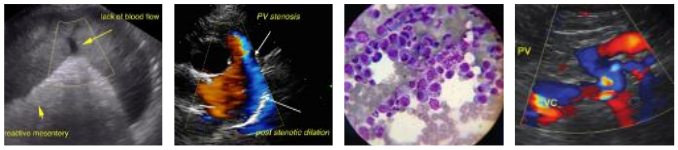
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™
SonoPath.com
1-800-838-4268 info@sonopath.com



PATIENT
Finnegan Oram

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
13 years

WEIGHT
14.9lbs

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

IMAGING PERFORMED BY
Jessica Miller

HOSPITAL NAME
Westwood Regional Veterinary Hospital

REFERRING VET
Dr. Goldman

INVOICE
20696

DATE
8/23/21

PRESENTING CLINICAL SIGNS

History: Presented for crying out with weak femoral pulses; no paralysis. Patient in oxygen on Lasix q2h. Previously on Plavix; unable to administer.
-Blood pressure: 280/164 (227) 190/163 (173) 246/179 (204)mmHg.
-Abnormal PE/Chem/CBC/UA Results: History- BNP 652
-Pertinent previous echo findings (2/2020 unknown interpreter): HCM moderate LVH (0.62cm listed) and significant LAE. Rec Plavix.

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

A three lead ECG is available; 50mm/s, 20mm/mV. The average heart rate is 330bpm. Concern for ventricular tachycardia based upon the morphology of lead 2.
ECG diagnosis: Rapid tachycardia, suspect ventricular in origin.

ECHOCARDIOGRAM FINDINGS ** Limited exam due to instability/fractious nature. **

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is borderline hypertrophied with mild remodeling of the endocardium. Normal LV internal dimension. Systolic function is depressed likely due to rapid heart rate. The left atrium is severely enlarged with intraatrial smoke. The right atrium is severely enlarged. The right ventricle appears affected as well. The mitral valve is normal, with normal mobility. No evidence of systolic anterior motion. No pericardial or pleural effusion seen.

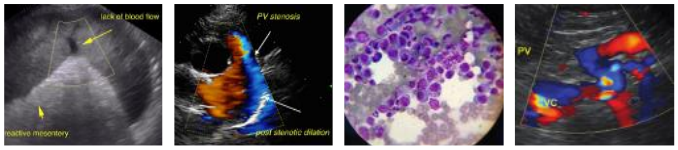
CARDIAC CHART

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	6.8	338	0.56	1.57	0.60	20	32
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	2.0	2.0	2.1		NM	NM	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 academic diagnosis can be argued in this case. With borderline LV wall dimensions this is more consistent with an Unclassified cardiomyopathy (UCM) than true hypertrophic, disease as was noted in the history. Regardless, the finding of significant biatrial dilation is highly concerning and may be due to structural disease likely compounded by development of a rapid



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

PATIENT
Finnegan Oram

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
13 years

WEIGHT
14.9lbs

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

IMAGING PERFORMED BY
Jessica Miller

HOSPITAL NAME
Westwood Regional Veterinary Hospital

REFERRING VET
Dr. Goldman

INVOICE
20696

DATE
8/23/21

arrythmia. Clearly, the most pressing problem is the rapid heart rate which based upon the morphology on the ECG is most consistent with ventricular tachycardia (VT). **Immediate referral for a full 6 lead ECG evaluation, ECG monitoring and hospitalization is advised as conversion and rate control therapy is no doubt indicated.** The patient will likely need to be hospitalized for conversion therapy for the short-term. If declined, sotalol can be cautiously instituted; however, cats are highly sensitive to anti-arrhythmic therapy and risk is elevated. The rapid heart rate is more likely to be the cause of weak pulses and vocalization; and **heparin is likely unnecessary in the absence of paralysis**. Regardless, Plavix would be ideal with smoke visualized, and consideration of a compounded option is recommended. Continuation of oral Lasix is recommended; although q 2 hours puts the patient at risk for over-dehydration. Close monitoring of renal values is advised with a dose adjustment as dictated by clinical picture.

Until the patient's heart rate is controlled, it is impossible to know if these changes are primary or secondary. The history of atrial enlargement in 2020 likely suggest underlying structural disease that is being exacerbating by development of tachycardia. Follow up is advised once the heart rate and rhythm are adequately controlled.

The totality of the issues confirms a **poor to grave prognosis long-term and humane euthanasia** should also be considered. Patient is at extremely high risk for sudden death, decompensation and fibrillation in the near future.

The reported blood pressures are too variable to interpret and hypertension is extremely unlikely with a rapid HR. Reassess once patient is stabilized. Ideally obtain serial measurements in a controlled, low stress environment and continue until the readings plateau within 5mmHg of variability for 3+ readings.

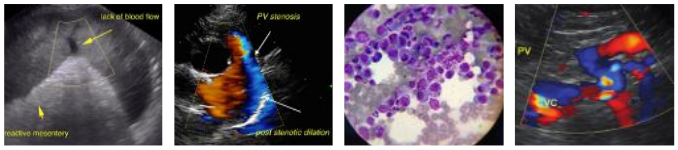
PLAN

Highly recommend immediate referral for continued hospitalization/monitoring with an Attending Cardiologist for ECG evaluation and continued treatment as the ideal approach to this complicated case. If declined, the following protocol can be utilized with elevated risk for complication: recommend baseline chest radiographs to screen for residual CHF. Monitor renal values q 6-8h until stabilized. Discontinue heparin. If or once patient has improved, change to oral 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); consider compounded options if unable to administer. Institute Pimobendan 1.25mg PO q12h. Only if referral is declined and HR of >300bpm persists, administer compounded sotalol ASAP; 0.05mg/kg PO q12h (liquid formulation available). Reassess HR/ECG in 2-3 days, sooner if any further episodes/malaise are noted. Goal is a sinus rhythm without persistent tachycardia >250bpm.

Monitor renal values/BP/HR/ECG in 1-2 weeks once the patient is stabilized.

A recheck echocardiogram is recommended in 4-6 months to reestablish a baseline.

SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT
Finnegan Oram

SPECIES
Feline

BREED
DSH

SEX
Male Neutered

AGE
13 years

WEIGHT
14.9lbs

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

IMAGING PERFORMED BY
Jessica Miller

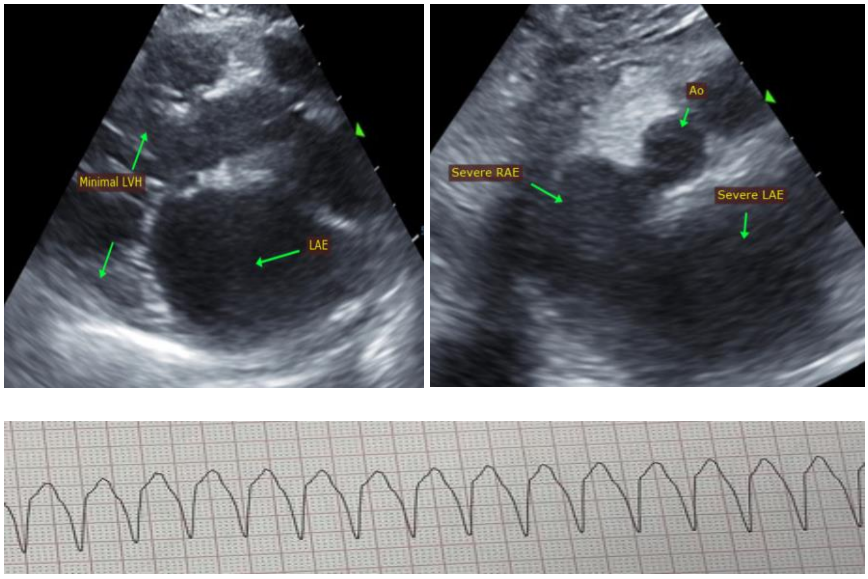
HOSPITAL NAME
Westwood Regional Veterinary Hospital

REFERRING VET
Dr. Goldman

INVOICE
20696

DATE
8/23/21

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