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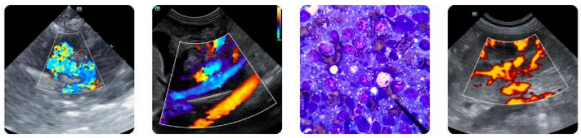

Clinical Sonography & Telecytology
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SonoPath
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**PATIENT**

Evelyn Franklin

**SPECIES**

Feline

**BREED**

DSH

**SEX**

Female Spayed

**AGE**

16 years

**WEIGHT**

12.7lbs

**INTERPRETED BY**

Maggie Machen Lamy, DVM, DACVIM (Cardiology)

**IMAGING PERFORMED BY**

Loetitia Saint-Jacques, LVT

**HOSPITAL NAME**

VCA Feline AH

**REFERRING VET**

Dr. Fleming

**INVOICE**

47679

**DATE**

4/26/26

## PRESENTING CLINICAL SIGNS

History: Patient generally well at home, mild stridor continues, eating well, RRR in 20s, eating well, no concerns although seems to have some difficulty jumping up and down. Diet: early renal. On Cerenia 4mg cypro 1mg dexamethasone 2.5mg q48 B12 q monthly SQ Wellness/Preventive care, Suspect OA, Biphasic stridor, Epiglottitis - possible - questionable, Cardiomegaly - borderline - static, Chronic enteropathy, Weight loss - stable, Abdominal lymphadenopathy, Hypertrophic cardiomyopathy, Segmental mild muscularis thickening, Heart murmur, grade 2 of 6, CKD IRIS stage 1. -Abnormal PE/Chem/CBC/UA Results: Grade 2/6 heart murmur. parasternal; Arrhythmia - Irregularly irregular dropped beat.

## ELECTROCARDIOGRAPHIC FINDINGS

A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 166bpm. 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. Isolated VPCs are noted; singles only. No APCs, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with isolated VPCs.

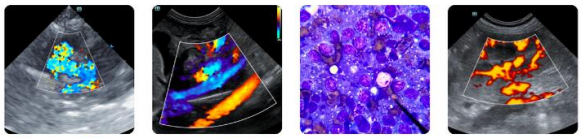
## ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular walls are mildly increased dimension. There is a mildly hyperechoic endocardium consistent with fibrosis. Mild papillary muscle hypertrophy. The papillary muscles are notably hyperechoic. Adequate systolic function. The left atrium is normal. No significant mitral regurgitation. No tricuspid regurgitation. The right atrium is normal in size. The right ventricle appears normal (subjective). The mitral valve is normal in structure and mobility. Blood flow through both the LVOT and RVOT are normal in velocity. No AI. No PI. No obvious cardiac tumors identified. No effusions.

## 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** | 5.8 | NM | 0.63 | 1.2 | 0.63 | 54 | 88 |
| **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 | 1.2 | 1.2 | | 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.





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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Hypertrophic cardiomyopathy is a rule out diagnosis once a patient is deemed euthyroid and normotensive. In a senior cat, both should be considered in this case. Regardless, the degree of abnormality is mild with mild hypertrophy noted and no left atrial enlargement. This would indicate low risk for complication at this time and no cardiac medications are clearly indicated.

The ECG does confirm an arrhythmia, with single ventricular premature contractions (VPCs) noted. VPCs are generated from abnormal conductive or fibrotic tissue in the ventricles of the heart muscle, and even frequent single VPCs will often cause no clinical signs. When sustained however, ventricular tachycardia can lead to symptoms such as lethargy and collapse.

VPCs are a very non-specific finding. They can be primary in origin (a rule out dx), secondary to significant cardiac disease (mild in this study), or be extra-cardiac in origin, i.e., due to pain, stress, inflammation, cancer, GI disease, DIC/sepsis, etc. In a geriatric cat, all differentials should be ruled out. An abdominal ultrasound to monitor for any underlying abnormalities, in addition to full screening lab work.

When assessing VPCs, we must not only consider why they are happening, but if we should treat them. Markers of malignancy are assessed, in addition to patient history and signalment. Based upon what is seen here in addition to the highly sensitive nature of cats to anti-arrhythmic medications, I would not institute therapy at this time. Assuming the patient remains asymptomatic, reassessing the finding periodically through auscultation/ECG monitoring is a reasonable approach.

Anesthetic risk is considered moderately elevated due to the arrhythmia, and 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 ketamine, telazol, alpha 2 agonists. A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance. Monitor ECG intra and post-operatively, with careful intervention if ventricular arrhythmias worsen (i.e., sustained VT) and lead to hemodynamic compromise.

## PLAN

Monitor BP and T4 every 6 months. Full systemic evaluation as discussed.

A recheck echocardiogram and ECG are recommended in 6-12 months to monitor for progression, sooner if any issues arise in the interim.

## IMAGES

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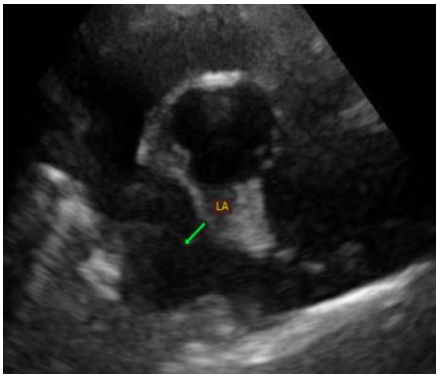


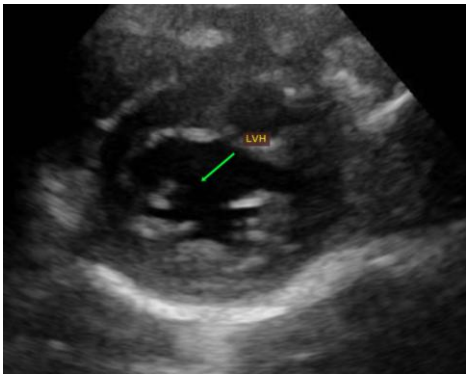


**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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**
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info@sonopath.com