



PATIENT

Peppermint
Christensen

SPECIES

Ferret

BREED

Albino

SEX

FS

AGE

5 years

WEIGHT

2lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Barajas

INVOICE

24092

DATE

5/9/22

PRESENTING CLINICAL SIGNS

History: Presented for wellness check and weight loss. Abdominal palpation revealed a possible mass in abd. Abdominal radiograph confirmed large sup lumbar lymph nodes. Chest radiographs showed a possible enlarged heart with no heart murmur noted. Eating and drinking normal with normal activity.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. Minimal cardiomegaly with a globoid appearance. No obvious evidence of CHF.

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, 20mm/mV. The average heart rate is 188bpm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed. ECG diagnosis: Normal sinus rhythm.

ECHOCARDIOGRAM FINDINGS

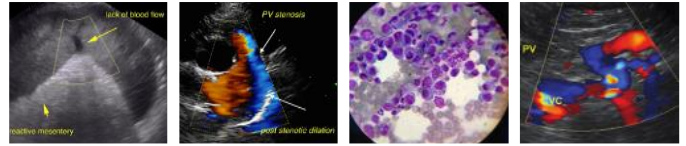
2D, m-mode, color flow and doppler imaging is available. Normal MV with no obvious prolapse into the left atrial lumen. No mitral regurgitation with a normal left atrial dimension. No LV dilation with adequate myocardial function. The LV walls are mildly increased in dimension; uniform echogenicity. Mild papillary hypertrophy. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No obvious pulmonic insufficiency. Mild aortic insufficiency. No effusions or tumors.

CARDIAC CHART

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm) <small>(Moise, Pipers)</small>	LVIDd (cm) <small>(Moise, Pipers)</small>	LVWd (cm) <small>(Moise, Pipers)</small>	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.35-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	0.9	260	0.37	0.96	0.37	52	88
FELINE CARDIAC PARAMETERS	LA/AO <small>(Boon)</small>	LA/AO HEART BASE <small>(Swe) (Abbott)</small>	LA 2D short axis Base view <small>(cm) (Abbott)</small>		LVOT VEL <small>(m/s)</small>	RVOT VEL <small>(m/s)</small>	E max <small>(m/s)</small>
NORMAL	<1.5	<1.3	<1.2		<1.6	<1.3	<0.9
PATIENT	1.3	1.2	0.7		1.0	1.0	NM
<p><i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i> 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.</p>							

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The only abnormalities identified are mild LV hypertrophy and mild aortic insufficiency. Both of these may support systemic hypertension and screening is recommended if possible (particularly if any predisposing factors exist such as azotemia). Regardless, the quantification is mild and there is no LA dilation present indicating the current risk for complication is low. No concurrent issues such as systolic dysfunction or pulmonary hypertension are noted in this study. The ECG is unremarkable;



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however, the heart rate was intermittently elevated during the study. Consider reassessing a longer tracing, particularly should an arrhythmia be heard on exam.

SPECIES

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In an asymptomatic ferret with no significant left atrial enlargement, no cardiac medications are clearly indicated. That being said, if there is any documentation of hypertension, vasodilation using an ACE-I is recommended. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

BREED

Albino

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 an outflow obstruction (if present). A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance. Additionally steroids should be used with caution on older cats, as even a 'normal' geriatric heart can develop evidence of intolerance and fluid retention.

SEX

FS

AGE

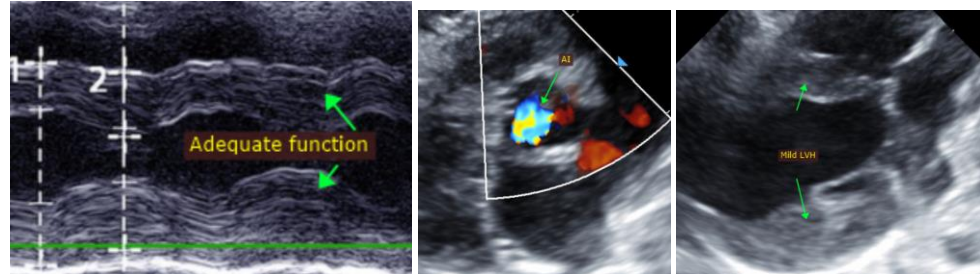
5 years

Recommend conservative monitoring with a recheck echocardiogram in 6-12 months, sooner if any development of clinical signs.

WEIGHT

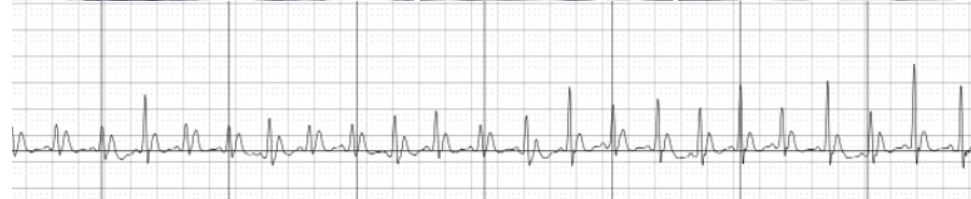
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IMAGES



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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.

REFERRING VET

Dr. Barajas

Thank you for this referral. 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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