



PATIENT

Aziza Reinhardt

SPECIES

Feline

BREED

Ocicat

SEX

Female Spayed

AGE

18.1 years

WEIGHT

6.5lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

Tom McNeill

HOSPITAL NAME

SVS Imaging CT

REFERRING VET

Dr. Thompson

INVOICE

28858

DATE

2/8/23

PRESENTING CLINICAL SIGNS

History: Presented to ER for cough/gag, drooling. Treated with Furosemide 18mg initially and 12.5mg IV 3 hours later, Torbugesic 1.5mg IV once, Convenia 0.36cc SQ once. Prescribed Pimobendan 1.25mg PO BID, Furosemide 12.5mg - 1/2 PO BID, and Benazepril 5mg - 1/2 PO SID. Grade 3-4/6 heart murmur. Sedated with Butorphanol.

-Abnormal PE/Chem/CBC/UA Results: BW- CBC WNL, Chem >PO4 (7.7), rest WNL, T4 > (5.5), ProBNP Abnormal BP- 88 (presentation to ER).

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only. Normal cardiac silhouette. No obvious evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is mild to moderately hypertrophied. The LV chamber is decreased in dimension. There is a diffusely hyperechoic endocardium consistent with fibrosis and ventricular remodeling. Mild papillary muscle remodeling. The right ventricle is subjectively normal in size and morphology. There no left atrial enlargement present. No right atrial enlargement present. Normal RVOT velocity. Systolic anterior motion (SAM) of the mitral valve present on 2D imaging, although on captured on spectral doppler. There is mild eccentric mitral regurgitation present secondary to SAM. No other significant valvular regurgitation is present. There is no pericardial effusion noted. No pleural effusion appreciated. No obvious cardiac 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	2.9	NM	0.7	1.1	0.65	69	96
FELINE CARDIAC PARAMETERS	LA/AO <small>(Boon)</small>	LA/AO HEART BASE (Swe) <small>(Abbott)</small>	LA 2D short axis Base view (cm) <small>(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	NM	1.2	1.1	1.7	1.4	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 diagnosis is hypertrophic obstructive cardiomyopathy (HOCM). This indicates LV thickening (mild to moderate in this case) with a dynamic LVOT obstruction (SAM) and secondary mitral regurgitation as the cause of the heart murmur. My suspicion in this case is that at least some component of the hypertrophy is due to dehydration secondary to Lasix therapy (i.e., pseudohypertrophy). Follow up is advised once the volume is addressed. Regardless, what is seen here is mild with no left atrial enlargement present, indicating the risk of spontaneous CHF and/or a thrombotic event is currently low. No additional issues are identified.

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Prognosis is guarded long term, given the highly variable rates of progression with subclinical feline cardiomyopathy. The age of the patient must be considered as well as this will likely be a limiting factor.

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Given what is seen here, **CHF is considered an unlikely cause for the clinical signs.** The chest radiographs and history are inconsistent with CHF as well; however, a Radiologist review is suggested if there is any question on the diagnosis. Renal values should be reassessed in this case, given use of Lasix and Benazepril and the age of the patient. If the symptoms return in the future, consider further respiratory evaluation and repeat chest radiographs.

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While no medications have been shown to definitively alter long term outcome at this stage of disease, atenolol is often initiated to decrease the outflow obstruction. Given what is seen here, this is not clearly warranted.

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Monitor at home for any respiratory signs or blood clot events (neurologic change, paralysis, etc.). 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 (ketamine, glycopyrrolate, atropine).

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PLAN

Based upon these findings, no obvious risk for CHF is appreciated and Lasix, Enalapril and Pimobendan can be safely discontinued. If the symptoms return, serial radiographs are recommended with a Radiologist evaluation. Reassess lab work once medications are discontinued due to the appearance of dehydration.

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Screening blood pressure and T4 are recommended every 6 months.

Recommend recheck echocardiogram in 6 months to assess for progression, sooner if clinical issues arise.

IMAGES**IMAGING PERFORMED BY**

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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.

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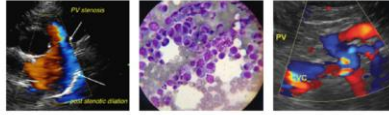
Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

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