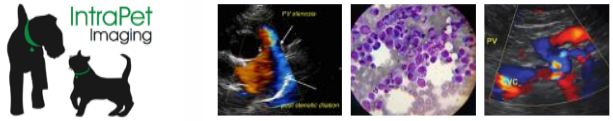
IMAGING PERFORMED BY

IntraPet.com



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

PATIENT
Pepper Wehner

SPECIES
Feline

BREED
DSH

SEX
Female Spayed

AGE
7.9.10

WEIGHT
7.3lbs

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

HOSPITAL NAME
Pleasantville Animal Hospital

REFERRING VET
Dr. Gounaris

INVOICE
28829

DATE
2.7.23

PRESENTING CLINICAL SIGNS

History: Presenting for weak spells - two separate events within the past 2 weeks. Owner describes in one instance she was perched on the countertop when all of a sudden, she fell over and off the edge. Owner could not tell if it was a seizure because she did not convulse, paddle, or lose her bowels. She was out of it for a minute or so before she came to. Still has a normal appetite, drinking usual amount of water, no c/s/v/d. Using the litter box as far as he can tell. He does have 17 cats - all indoors.
PE - mild generalized muscle wasting. Grade 2/6 murmur.
-Pertinent abnormal PE/Chem/CBC/UA Results: CBC – unremarkable. Chem - BUN 31, otherwise WNL. T4 WNL, Cardiac ProBNP - abnormal
-Current medications: None.
-Sedation used: Not required to complete full diagnostic ultrasound.
-Pertinent previous ultrasound results: No previous.
-STAT: Declined.
-Imaging performed by: Stephanie Warga RDCS, RVT.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. The left ventricular wall is irregular with regions of mild hypertrophy and regions of thinning. There is a diffusely hyperechoic endocardium consistent with fibrosis and ventricular remodeling. Papillary muscle remodeling. The right ventricle is subjectively normal in size and morphology. Moderate left atrial dimension with a horizontal component; no spontaneous contrast. No right atrial enlargement present. Normal RVOT velocity. There is systolic anterior motion (SAM) of the mitral valve present, with an elevated LVOT velocity and a dynamic profile. There is mild mitral regurgitation present secondary to SAM. No TR. Trace AI. The aortic root and ascending segment appear dilated. There is no pericardial effusion noted. No pleural effusion appreciated. No obvious cardiac tumors. Intermittent tachycardia noted throughout.

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	3.5-0.55	<2 (mean 1.5)	3.5-0.55	35-67	80-100
PATIENT	3.3	NM	0.68	1.37	0.65	70	94
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	1.8	1.7		3.0	1.4	NM

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. This indicates some degree of LV hypertrophy (mild in this case) with a dynamic LVOT obstruction (SAM) and secondary MR. There is moderate left atrial dilation present, indicating the risk of spontaneous CHF and/or a thrombotic event is elevated. A small aortic leak is noted, and a baseline BP is recommended. Finally, intermittent tachycardia is noted throughout the study, which may suggest an arrythmia. A baseline ECG is also recommended.

While no medications have been shown to definitively alter long term outcome at this stage of disease, it is reasonable to initiate atenolol at this time as below in light of a tachycardia, significant LVOTO and LA dilation. Plavix is also reasonable given LA dilation; however, this can be difficult to administer. Prognosis is guarded with LA dilation, although there is great variability in rates of progression with subclinical feline cardiomyopathy.

At this time it is assumed that the reported episodes are cardiogenic in origin, although an exact cause is difficult to pinpoint. Exertion is not mentioned in the history, making the LVOT obstruction an unlikely culprit. Other possibilities include a blood clot event or intermittent arrythmia. Reassessment is recommended if the episodes continue to recur despite medications below.

Monitor at home for any respiratory signs or blood clot events (neurologic change, paralysis, etc.) in the future.

Anesthetic risk is moderately elevated 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 vasodilators as this may worsen the obstruction. A reasonable protocol includes opioid/benzodiazepine premedication, propofol induction, isoflurane maintenance.

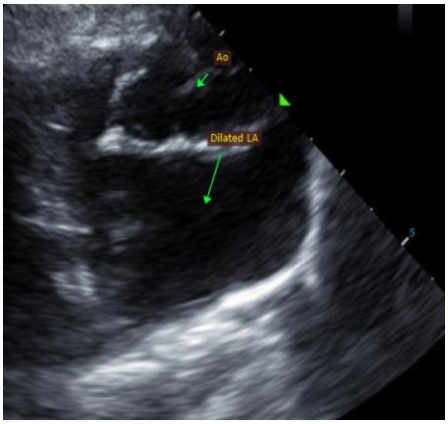
Risk for complication with steroid use typically follows LA dilation, which in this case is significantly elevated. Ideally consider an alternative such as Budesonide as a safer choice. If needed for systemic wellness however, monitoring of RR/RE is advised particularly in the initiation phase.

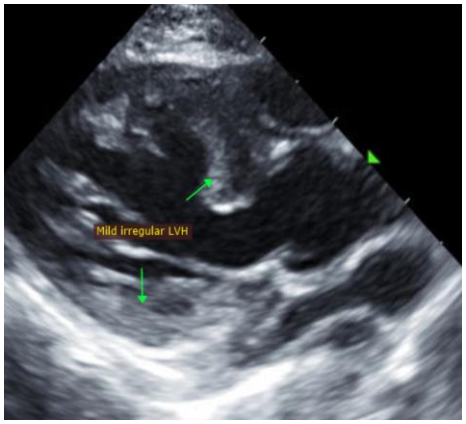
PLAN

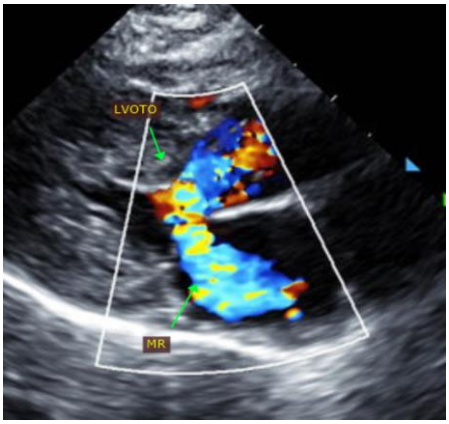
Administer titrating dose of atenolol: 25mg tablets; Give ¼ tab once daily. Recheck heart rate in 1-2 weeks with target stressed rate of 140-160bpm 12-24 hours post-administration. Increase as needed until target reached. Consider blood thinner Clopidogrel (Plavix) 75mg tablets; give ¼ tab orally once daily (NOTE: this medication is very bitter on the cut edges). 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







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