



PATIENT

Fat Boy Hunt

SPECIES

Canine

BREED

Chihuahua

SEX

Male Neutered

AGE

13 years

WEIGHT

10lbs

INTERPRETED BY

Maggie Machen
Lamy, DVM, DACVIM
(Cardiology)

HOSPITAL NAME

Banfield Pet Hospital
Timonium

REFERRING VET

Dr. Borrison

INVOICE

20685

DATE

8/23/21

PRESENTING CLINICAL SIGNS

History: Recheck echo. Progressing heart murmur; syncopal episode/episode of collapse on 8/14.
-Pertinent abnormal PE/Chem/CBC/UA Results: NSF, ALKP slightly elevated.
-Radiographs: Cardiomegaly, airway collapse, +/- lower airway disease, no CHF identified.
-Current medications: 12.5mg Furosemide BID, 1.25mg Hydrocodone q6-12h or PRN for cough, 1.25mg Pimobendan BID.
-Sedation used: Sedation not required for scan.
-Pertinent previous ultrasound results: 4-22-2020.
-STAT: Not requested

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with moderate left atrial dilation. Normal MR velocity. Mildly increased LV diameter with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened with mild to moderate tricuspid regurgitation. Normal velocity. 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 aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.9	2.7	NM	1.8	64	93	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	193	1.3	1.0	4.5	2.0	2.7	1.0
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease causing moderate mitral and tricuspid regurgitation. Moderate left atrial enlargement indicates current relative stability with risk for progression to spontaneous congestive heart failure in the future. No additional are noted at this time.

No definitive cardiac cause for the episode is seen in this study (i.e., no PAH, no obvious rupture or tears, reasonable cardiac output, etc.) and other causes should be considered. These possible causes include vasovagal event, intermittent arrhythmias (unlikely given the breed), neurologic/systemic issues, etc. That being said, if the episode occurred with significant exertion there certainly is a possibility that regurgitant volume is involved and Pimobendan may help. Additionally, while no arrhythmias are noted during this study, an intermittent arrhythmia still cannot be ruled out without a holter monitor, and this should be considered if episodes continue undiagnosed. Further systemic evaluation may also be considered including AUS. Finally, atypical seizures should also be considered, pending more extensive history/situational nature of the episodes.

Given the degree of disease seen here, it is responsible to continue Pimobendan. No obvious indication for Lasix therapy in the absence of congestive heart failure (none listed on the radiology report), and this can be safely discontinued. A baseline blood pressure is recommended.

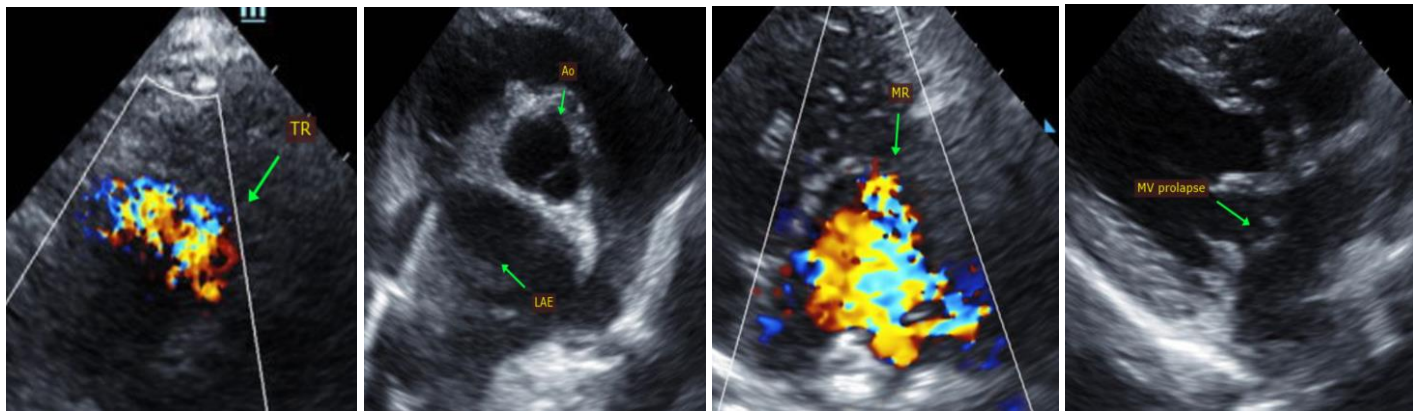
Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes.

PLAN

Baseline BP is recommended. Continue Pimobendan 0.3mg/kg BID. Consider other causes of syncope as discussed. No obvious indication for continued Lasix therapy.

Recommend monitor for progression with a recheck echocardiogram in 6 months, sooner if any development of clinical signs.

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)

Email: info@sonopath.com