



PATIENT

Baxter Cato

SPECIES

Canine

BREED

Maltese

SEX

Male Neutered

AGE

10 years

WEIGHT

10.8lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

IMAGING PERFORMED BY

S. Bathelemy, DVM

HOSPITAL NAME

Southpointe
Veterinary Hospital

REFERRING VET

Dr. Mizen

INVOICE

30245

DATE

4/13/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. Grade 5 left side murmur. Currently is coughing.
-Current medications: Pimobendan and Spironolactone as renal impairment with Furosemide.
-Pertinent previous echo findings (5/2022 MML): Severe MR, severe LAE, LVE, mild TR, mild PAH: 3.4m/s. LA: 2.6, LV: 3.7.

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. Severe eccentric mitral regurgitation with severe left atrial dilation. The pulmonary veins appear dilated as they enter the lumen. LV dilation with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened with mild tricuspid regurgitation. TR velocity is mildly elevated. Right heart is mildly dilated. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. No aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac tumors observed.

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	5.8	3.0	NM	2.3	54	86	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	NM	1.0	0.9	4.9	2.7	3.5	1.6
*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)
<i>*Note: All measurements based upon multi-modal images and methods. An average value is reported.</i>				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

Compared to the prior study, findings are similar. Severe mitral and mild tricuspid regurgitation are unchanged with mild stable pulmonary hypertension. Significant left atrial and ventricular enlargement indicate the risk for spontaneous congestive heart failure is elevated. No additional issues are noted.

The patient is noted to be coughing upon serial examinations. Chest radiographs should always be considered with a change in symptoms. It is reported that Lasix was poorly tolerated and should only be utilized if CHF is documented in the future. That being said, this is no doubt an



PATIENT	impending issue and concurrent renal disease may be an end point at that time. Highly recommend Hydrocodone for any mechanical component. Continue Pimobendan and Spironolactone as prescribed.
Baxter Cato	
SPECIES	Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.
Canine	
BREED	Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit. Monitor for development of a worsening cough, labored breathing, exercise intolerance or collapse episodes. Long term prognosis is guarded to poor, with an average survival time of 8-9mo for canine patients with active pulmonary edema on medications, however they generally are able to maintain a good quality of life for that period. Patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.
Maltese	
SEX	
Male Neutered	
AGE	PLAN
10 years	Continue Pimobendan and Spironolactone as previously discussed. Consider more aggressive hydrocodone with homatropine for QOL (0.2-0.4mg/kg PO up to q4-6 hours PRN for cough; available in 5/1.5mg tabs and 5mg/5ml liquid suspension). If and when CHF develops, Lasix will become necessary and renal values must be closely monitored.
WEIGHT	A renal panel is recommended every 3-4 months lifelong.
10.8lbs	A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise.
INTERPRETED BY	IMAGES
Maggie Machen Lamy, DVM, DACVIM (Cardiology)	
IMAGING PERFORMED BY	
S. Bathelemy, DVM	
HOSPITAL NAME	
Southpointe Veterinary Hospital	
REFERRING VET	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.
Dr. Mizen	
INVOICE	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.
30245	
DATE	Maggie Machen Lamy, DVM Diplomate of the American College of Veterinary Internal Medicine (Cardiology) info@sonopath.com
4/13/23	