



**PATIENT**

Shadow Braham

**SPECIES**

Canine

**BREED**

Miniature Schnauzer

**SEX**

Female Spayed

**AGE**

9.9 years

**WEIGHT**

17.5lbs

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. Doing well RRR varies between 16-40, trend is increasing. Grade 3-4/6 heart murmur. Elevated BNP. BP: 217mmHg.

-Current medications: Obendan 2.5mg q12h, Fortekor 5mg x 1/2 tablet SID or as advised, Spironolactone 25mg x q12h, Furosemide 20mg give 1 tablet every 8-12 hours if directed to give by Vet. For respiratory emergencies only m20.

-Abnormal PE/Chem/CBC/UA Results: SDMA 10 (N 0-14) USG 1.015, BNP: 1456.

-Pertinent previous echo findings (7/2023 MML): Severe MR, moderate to severe LAE, E max: 1.6, mild LVE. FS: 33%, mild TR, mild PAH: 3.0m/s. LA: 3.0, LV: 3.8.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. The mitral valve is diffusely thickened with mild prolapse into the left atrial lumen. There is severe eccentric mitral regurgitation present. The MR velocity is normal. There is moderate to severe left atrial enlargement. E wave velocity suggest elevated filling pressures (1.7m/s). There is mild left ventricular dilation. Left ventricular systolic function is mildly depressed. Mild right atrial and ventricular dilation (subjective). Mild thickening of the tricuspid valve with mild TR. Velocity consistent with early pulmonary hypertension. There is normal systolic flow velocity across the aortic valve. The aortic valve appears trileaflet with normal mobility. The main pulmonary artery is normal in diameter. The pulmonic valve is normal in appearance. Trivial PI. No pericardial/pleural effusion or cardiac masses are seen.

**CARDIAC CHART**

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Brian J Barnes, DVM

**HOSPITAL NAME**

Westview Veterinary  
Hospital

**REFERRING VET**

Dr. Barnes

**INVOICE**

32134

**DATE**

8/3/23

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	6.0	3.4	NM	2.0	42	73	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	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	1.9		8.0	2.9	3.9	2.3
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
<b>BODY WEIGHT DEPENDENT PARAMETERS</b>				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



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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Compared to the prior study, findings are similar, which is not unexpected given the time frame. Severe mitral and mild tricuspid regurgitation are unchanged with stable left and right heart dimensions. The pulmonary pressures are slightly increased comparatively, which is of unknown significance. No additional issues have developed.

Given these findings, continue all medications as previously recommended. If the respiratory rates continue to trend upward, then a dose increase in Lasix is certainly warranted as the LA filling pressures are still quite elevated. That being said, the patient is already on 5mg/kg/day of Lasix and I would not increase this unless the clinical finding is persistent. Monitor renal values every 3-4 months lifelong.

Close monitoring for development of associated clinical signs (development of a cough, labored breathing, exercise intolerance or worsening collapse episodes) is recommended. Monitoring of sleeping breathing rates is recommended as the best way to screen for CHF at home.

Omega fatty acid supplementation and mild salt restriction may also be of some long-term benefit.

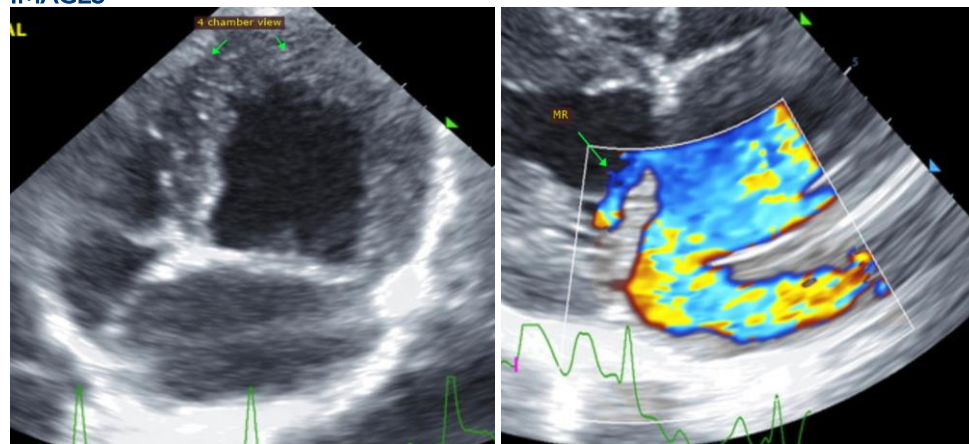
**PLAN**

Continue 4 medications as previously recommended. If the SRR's continue to persistently progressively increase, a dose increase in Furosemide is recommended (25%).

Monitor renal values every 3-4 months lifelong to ensure tolerance of medications.

A recheck echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs arise.

**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.

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