



**PATIENT**

Macho Nazario

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Male

**AGE**

10 years

**WEIGHT**

10.6lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

G. Ferrer, DVM

**HOSPITAL NAME**

Paseos Veterinary  
Center

**REFERRING VET**

Dr. Martes

**INVOICE**

29923

**DATE**

3/29/23

**PRESENTING CLINICAL SIGNS**

History: Recheck echo. Has been coughing (frequency score 8/10). He is on Furosemide and Tussionex; helped with coughing in the beginning but not anymore. Denamarin has finished 1 month ago. Continue cardiac medications - added anti-coughing pills.

-Abnormal PE/Chem/CBC/UA Results: Chem - BUN 30.

-Radiographs: Cardiomegaly; dorsally displaced trachea (and to the right); increased opacity at the cauda-dorsal pulmonary campus.

-Pertinent previous echo findings (6/2022 MML): Severe MR, severe LAE, mild TR, mild RHE. LA: 2.55, LV; 3.4.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode and Doppler imaging are available. Diffuse thickening of mitral valve leaflets (anterior > posterior) with prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Significant LV dilation with hyperdynamic myocardial function. The tricuspid valve appears mildly thickened, with mild tricuspid regurgitation. Normal velocity. Mild right heart enlargement. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities. Mild pulmonic and no aortic insufficiency. No pericardial or pleural effusion noted. No 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	5.3	2.7	NM	2.3	62	91	0.16
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	150	0.8	0.5	4.8	2.5	3.5	1.3
*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)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Chronic degenerative valve disease persists with overall stability. Severe mitral and mild tricuspid regurgitation are unchanged with stable left and right heart dimensions. No additional issues have developed.



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The described cough remains multi-factorial in origin. Screening chest radiographs remain recommended; however, a lack of response to Lasix would suggest a mechanical origin. Highly recommend full cardiac support, in addition to cough suppression as needed. Monitoring of sleeping breathing rates in the future will be paramount to determine the origin of any future cough. The average survival of canine patients with active pulmonary edema is 8-9 months 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. Monitoring of renal values is recommended lifelong.

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.

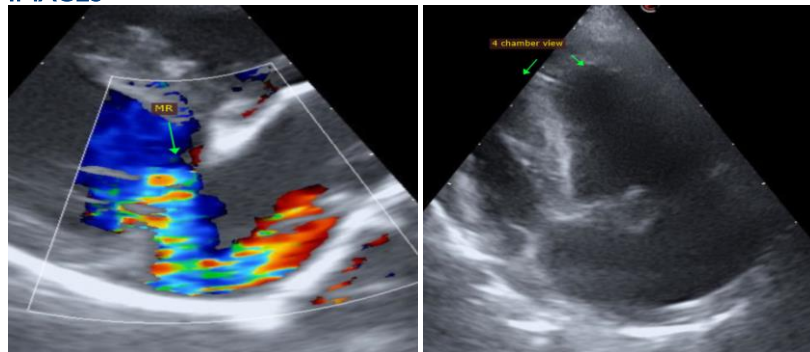
## PLAN

Continue Pimobendan, Lasix, Spironolactone and an ACE-I as previously prescribed. Consider hydrocodone with homatropine (0.2-0.4mg/kg PO up to q4-6 hours PRN) if cough persists.

A renal panel and BP are recommended every 3-4 months.

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

## 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.

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