

**PATIENT**

Captain Nash

**SPECIES**

Canine

**BREED**

Chihuahua Mix

**SEX**

Male Neutered

**AGE**

12 years

**WEIGHT**

6.6lbs

**INTERPRETED BY**

Maggie Machen  
Lamy, DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Sara Hansen

**HOSPITAL NAME**

Wilvet Salem

**REFERRING VET**

Dr. Wepprich

**INVOICE**

27678

**DATE**

11/28/22

**PRESENTING CLINICAL SIGNS**

History: Grade 5/6 heart murmur. BP: 150mmHg.  
 -Current Medications: Furosemide, Cerenia, Butorphanol, Pimobendan, Gabapentin  
 -Radiographs: Cardiomegaly, distended pulmonary vessels, perihilar alveolar pattern.

**RADIOGRAPHIC FINDINGS** \*NOTE: Images submitted for supplemental cardiac information only.  
 Mild cardiomegaly with LA dilation. Equivocal for CHF.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with significant prolapse into the left atrial lumen. Moderate eccentric mitral regurgitation with moderate left atrial dilation. Normal MR velocity. Mild LV dilation with hyperdynamic myocardial function. The tricuspid valve appears normal with no obvious tricuspid regurgitation. Normal right atrial and ventricular diameter and morphology. 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	4.5	NA	NM	1.75	55	90	0.2
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	1.2	0.9	3.0	2.2	2.9	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)
				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**

Chronic degenerative valve disease causing moderate mitral regurgitation. Moderate left atrial enlargement indicates the risk for spontaneous congestive heart failure is relatively low yet may be elevated going forward. No additional issues are noted.

In a patient without reported respiratory signs, CHF is considered unlikely given the totality of the findings. That being said, if there is any question on the diagnosis, a Radiologist review of the films is strongly recommended due to anatomic variance. Soft unilateral crackles are noted; however, again without dyspnea these are difficult to interpret and may simply reflect underlying pulmonary disease. Use of Lasix should only be continued if the patient is symptomatic, and the response to the medication is/was positive. Regardless of symptoms, Pimobendan is recommended in this case going forward for potential long-term benefit with stage B2 disease. Prognosis is guarded with risk for complication going forward.

Anesthesia is not advised at this time.

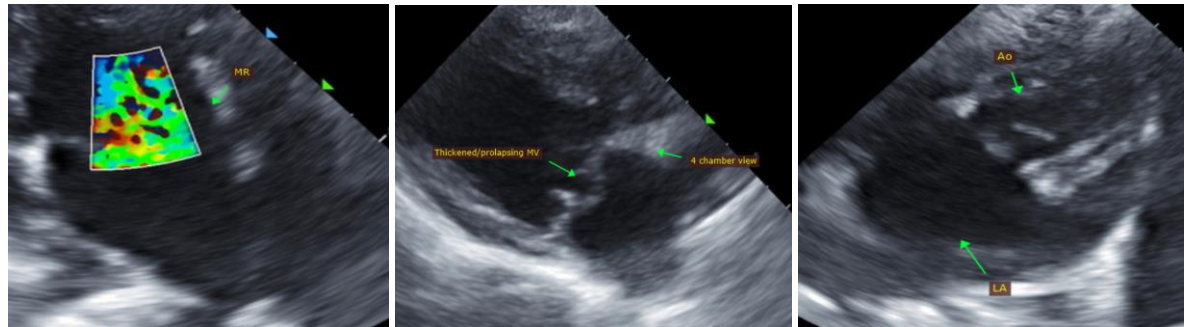
**PLAN**

Screening BP. Consider need for continued Lasix as discussed based upon history, Radiologist review of the films, etc. If continued, utilize 1-2mg/kg PO q12h. Continue Pimobendan 0.3mg/kg PO q12h. If Lasix is indicated, an ACEI should also be administered 0.5mg/kg PO q12h. Consider Hydrocodone if needed for quality of life.

A recheck renal panel is recommended every 3-4 months lifelong if Lasix is continued.

A recheck BP and echocardiogram is recommended in 6 months to screen for progression, sooner if clinical signs 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**  
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