



**PATIENT**

Jack Ruggiero

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Male Neutered

**AGE**

1.5 years

**WEIGHT**

12.5lbs

**INTERPRETED BY**

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

**IMAGING PERFORMED BY**

Christensen, DVM

**HOSPITAL NAME**

Tranquility Veterinary  
Clinic

**REFERRING VET**

Dr. Peng

**INVOICE**

46763

**DATE**

2/9/26

**PRESENTING CLINICAL SIGNS**

History: Elevated BNP: 1034. No heart murmur. Normal ECG. Assess prior to dental.

**ECHOCARDIOGRAM FINDINGS**

2D, m-mode, color flow and doppler imaging is available. Mild thickening of the mitral valve leaflets with no prolapse into the left atrial lumen. No mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trivial tricuspid regurgitation. 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 and trace 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)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
<b>PATIENT</b>	NA	NA	NM	1.3	33	60	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)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
<b>PATIENT</b>	NM	1.3	1.2	5.7	1.6	2.4	1.6
*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)
<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)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cardiac structure and function in this patient is overtly normal. No significant valvular regurgitation is noted, and flow through the great vessels is normal. No obvious concurrent issues such as pulmonary hypertension are suspected.

A structural cause for NT-ProBNP elevation is not apparent here, making this potentially a false positive result (particularly in a young otherwise healthy dog) Other possible causes for elevated levels of the enzyme should be considered, such as significant arrhythmias, hyperthyroidism,



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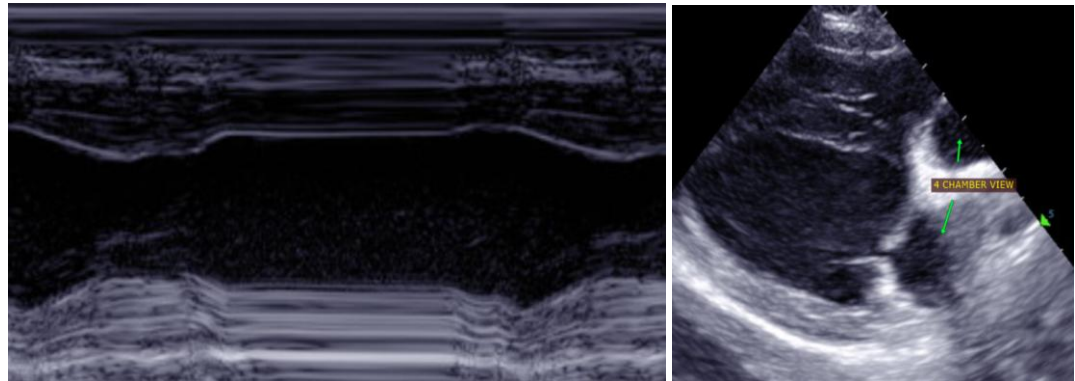
systemic hypertension or renal disease. If no obvious cause is identified, reassessing this patient in 6-12 months is recommended to ensure early disease was not missed.

No cardiac medications are indicated at this time and the prognosis is open. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

No cardiac contraindication for general anesthesia.

A recheck is recommended in 6-12 months to ensure no progressive issues are identified, sooner should a murmur or any clinical signs of cardiac compromise be noted in the interim.

## 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)**

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