



## PATIENT

Georgie Edwards

## SPECIES

Canine

## BREED

Brittany Spaniel

## SEX

Male

## AGE

11.4 years

## WEIGHT

43.9lbs

## INTERPRETED BY

Maggie Machen Lamy,  
DVM, DACVIM  
(Cardiology)

## IMAGING PERFORMED BY

Brian Barnes, DVM

## HOSPITAL NAME

Westview Veterinary  
Hospital

## REFERRING VET

Dr. Barnes

## INVOICE

26143

## DATE

9/1/22

## PRESENTING CLINICAL SIGNS

History: Recheck echo. Slight heart murmur. Previous history of massive increase in BNP. Had Parvo Virus as a pup, littermates died. Assess prior to dental.

-Abnormal PE/Chem/CBC/UA Results: ProBNP Mar, 2021 6050 (N 0-900), April 2021 4621 Aug 2022 5630. CBC WNL CHEM Na:K ratio 27 (n 28-37) AST 56 (n 16-55), CK 470 (N 10-200).

-Pertinent previous echo findings (4/2021 MML): Mild MR, no LA or LVE, mild TR. LA: 2.5, LV: 3.0, TR: 2.2.

## ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Mild eccentric mitral regurgitation with no left atrial dilation. Normal MR velocity. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with mild tricuspid regurgitation. Normal velocity. 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)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	4.9	2.3	1.2	1.1	53	85	0.4
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	1.1	0.9	19.9	2.7	3.2	1.5
*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

Chronic degenerative valve disease persists with evidence of stability. Compared to the prior study, MR and TR are unchanged with no progressive left or right heart enlargement. No concurrent issues such as systolic dysfunction or pulmonary hypertension are noted in this study.



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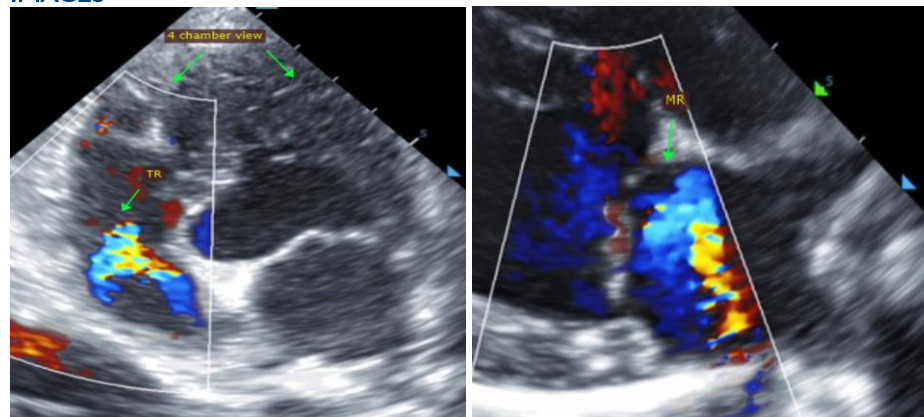
The cause of significant BNP elevation remains open in this case as this degree of structural disease is unlikely to lead to significant elevation. While a false positive remains possible, other possibilities should still be considered, such as systemic hypertension (noted in the history). Historical Parvo virus infection is unlikely to be related given a lack of secondary LV pathology, such as dilation or dysfunction. Regardless, the mismatch will lead to limited clinical utility of this test going forward.

Given these findings, no mediations are indicated. Assessment of progression in the future will help predict long term prognosis, which is highly variable at this stage (B1). Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes.

No cardiac contraindication for general anesthesia prior to chamber enlargement.

Recommend conservative monitoring with a recheck echocardiogram in 6-12 months, sooner if any development of clinical signs.

**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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