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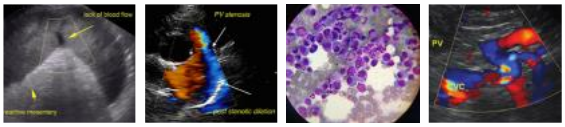


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

**PATIENT**
Sonny Pankey

**SPECIES**
Canine

**BREED**
Sheltie

**SEX**
Female Spayed

**AGE**
10 years

**WEIGHT**
11.8lbs

**INTERPRETED BY**
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

**IMAGING PERFORMED BY**
Jenna Walsh, CVT

**HOSPITAL NAME**
West Hills Animal Hospital

**REFERRING VET**
Dr. Remcho

**INVOICE**
21656

**DATE**
10/21/21

## PRESENTING CLINICAL SIGNS
History: Lameness issues. Chewing abnormally with regurgitation. BNP elevated.
-Abnormal PE/Chem/CBC/UA Results: ProBNP: 3,760.

## RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.
Mild cardiomegaly. No obvious evidence of CHF.

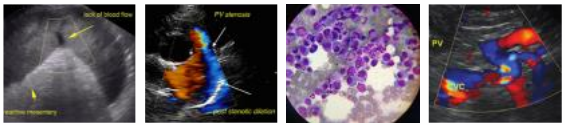
## ELECTROCARDIOGRAPHIC FINDINGS
A six lead ECG is available at 25mm/s; 10mm/mV. The average heart rate is 120bpm (range 110-150bpm). The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P wave morphology is positive with a normal dimension. Normal PR. The QRS morphology is positive with normal dimension. MEA is normal. No ectopic beats, pauses or dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm with respiratory variation.

## ECHOCARDIOGRAM FINDINGS
2D, m-mode, color flow and doppler imaging is available. Normal mitral valve leaflets with no prolapse into the left atrial lumen. Trace mitral regurgitation with a normal left atrial dimension. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace/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 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 | NA | 2.4 | 1.0 | 1.4 | 35 | 68 | NM |

| 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 | 0.8 | 0.85 | 5.4 | 1.4 | 2.3 | 1.5 |
| *Normal chamber parameters expressed as a mean value (SD) | | | | 3 | 1.27 (5.3) | 2.46 (2.46) | 1.36 (5.5) |
| BODY WEIGHT DEPENDENT PARAMETERS | | | | 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) |
| Adapted from June Boon, Veterinary Echocardiography, 1998 Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435 | | | | 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) |





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| | | | | |
|---|---|---|---|---|
| Hansson et al, Vet Rad and Ultrasound 2002<br>Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995 | 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

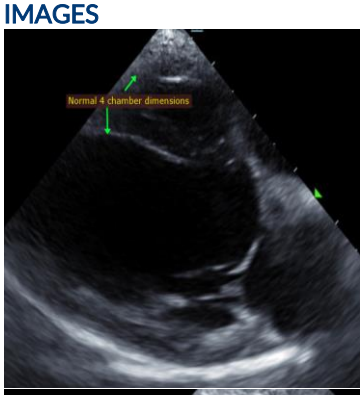
Overtly normal cardiac dimensions and function, with no obvious dysfunction or dilation of the left heart. Small leaks are noted in the mitral and tricuspid valves and follow up is advised should a murmur develop in the future. No other significant valvular leaks are visualized, and no evidence of pulmonary hypertension. The ECG is unremarkable, and these findings would suggest the chest radiographic cardiomegaly is a normal variant.

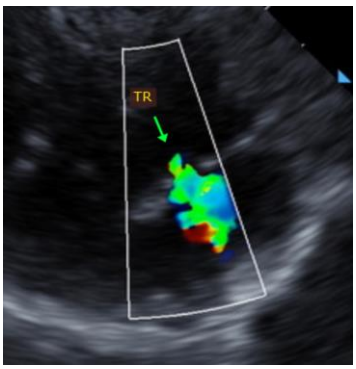
No obvious reason for NT-ProBNP elevation is seen, most likely making this a false positive result (a known weakness of the test). Other possible causes should be considered, including hypertension or renal disease. If no obvious cause is identified, reassessing this patient in 6-12 months is recommended to ensure early disease was not missed.

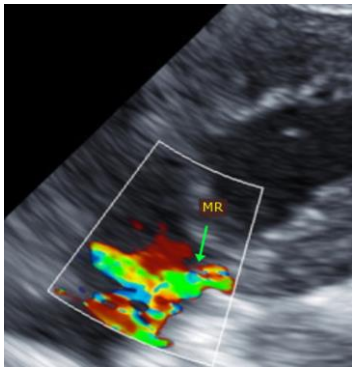
Monitor for development of a heart murmur, cough, labored breathing, exercise intolerance or collapse episodes.

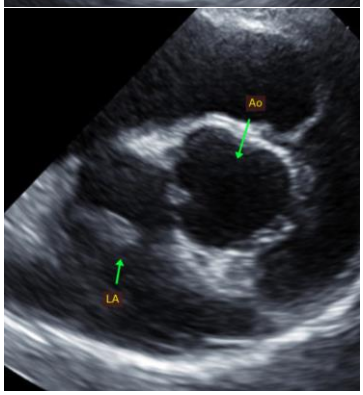
A recheck echocardiogram is recommended should a significant murmur develop, or signs of cardiac compromise be noted in the future.

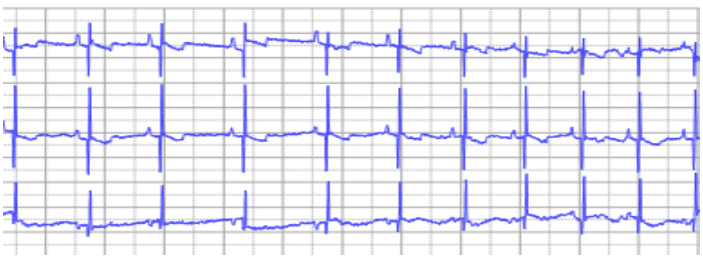
## IMAGES



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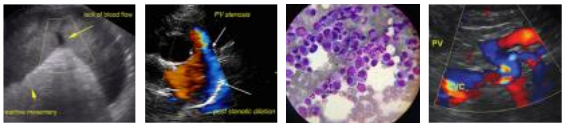

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**The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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