



## PATIENT

Dixie Lou Seymour

## SPECIES

Canine

## BREED

Boxer

## SEX

F/S

## AGE

4 yrs

## WEIGHT

70

## INTERPRETED BY

R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)

## IMAGING PERFORMED BY

Dr. Tracy Nyberg

## HOSPITAL NAME

Stuga North VC

## REFERRING VET

Dr. Tracy Nyberg

## INVOICE

16501

## DATE

4/5/23

## PRESENTING CLINICAL SIGNS

Several episodes of syncope over the last couple of months. Elevated pro-bnp (2,786) on panel in March. Holter monitor report via Idexx: Minimum HR :34bpm Average HR=80bpm Maximum=184bpm Ventricular arrhythmias: -9 single ventricular premature complexes are noted. Supraventricular arrhythmias: -Absence of supraventricular arrhythmia Absence of long pauses: maximum pause is 2.89sec. CONCLUSION: Normal sinus rhythm. 9 ventricular premature complexes /24h is a normal findings (less than 50VPCs/24h).

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

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	<1.3	28-40	40-100	<0.6
PATIENT			1.4	1.35	30.4	60	0.34
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				
PATIENT	NM		1.2		4.4	4.6	

## Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. No overt MR was noted on Doppler. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was borderline to mild subnormal as evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. No overt TR was noted on Doppler. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window. No evidence of overt arrhythmogenic disease was noted.



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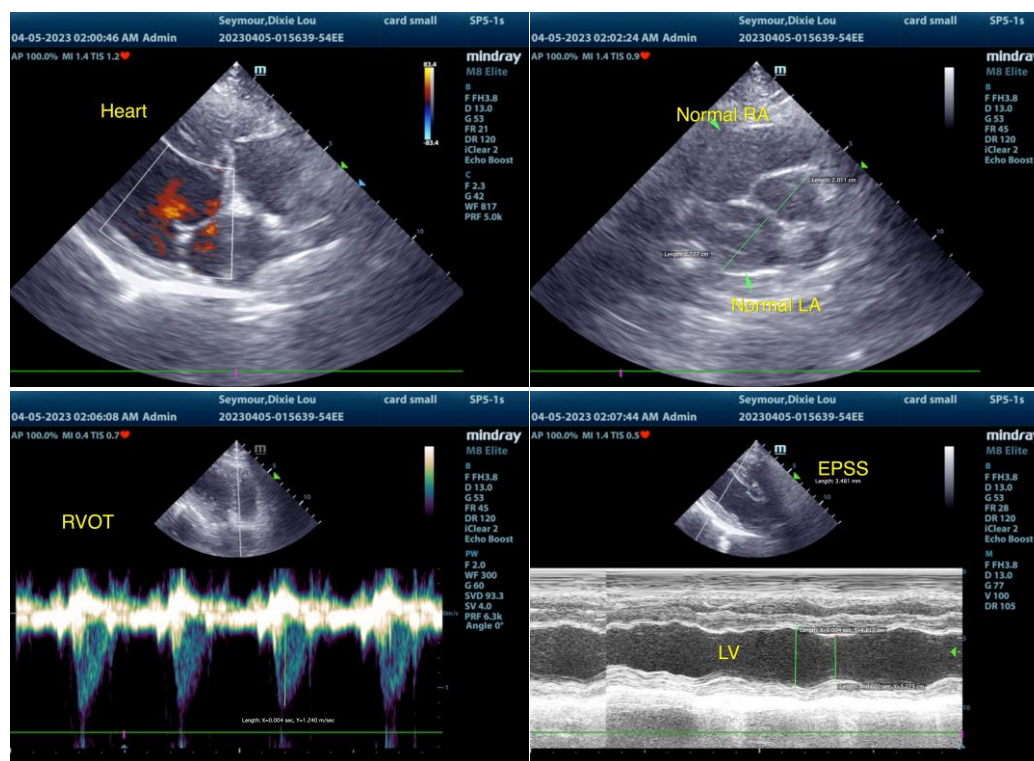
4/5/23

**ULTRASONOGRAPHIC FINDINGS**

- Normal echocardiogram with borderline / mild LV hypocontractility

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of left or right heart chamber enlargement, significant valvular insufficiencies, overt stenotic disease, or evidence of clinical pulmonary hypertension was noted. The borderline to mild LV hypocontractility is nonspecific with potential considerations including patient variant, given the breed, athletic state, borderline to mild LV hypocontractility secondary to potential systemic disease, or hypothyroidism. DCM criteria were not met. The borderline to mild LV hypocontractility is of unclear clinical significance, given the lack of overt structural cardiomyopathy. No obvious indication for cardiac medications. However, if continued or progressive syncopal episodes are noted, a Pimobendan trial with an assessment of clinical response could be considered. Likewise, ECG reassessment may be indicated given the breed. A cardiology consult is suggested.



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

Thank you for this referral. 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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**R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)**  
info@SonoPath.com

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