



## PATIENT PRESENTING CLINICAL SIGNS

**Lilly Barry**  
**SPECIES** Canine  
**BREED** Boxer  
**SEX** Spayed Female  
**AGE** 11 Years  
**WEIGHT** 35 kg

Patient presents for: This morning intensely coughing ~40-50 minutes, non-productive. Has been happening for past year but sporadically. Last week coughed so hard she collapsed. Seen at Fairhaven last month, but weren't too worried. History of: Arthritis No known medical issues or sensitivities Medications: Vetprofen, Gabapentin; Diet = Kirkland grain-free.

Abnormal PE/Chem/CBC/UA Results: Really difficult to auscult as she is trembling, but no obvious crackles and there is a very faint murmur right base inconsistently ausculted She had runs of VPC's on EKG per admitting dr. Thoracic radiographs no evidence pulm edema or masses, mild cardiomegaly Labs normal other than mild elev ALKP

## 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	<1.6	28-40	40-100	<0.6
PATIENT			1.28	1.59			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				
PATIENT		2.38	1.0		1.64		

## INTERPRETED BY

Eric Lindquist, DMV  
 DABVP, Cert. IVUSS

## IMAGING PERFORMED BY

Dr. Callihan

## HOSPITAL NAME

Animal Emergency  
 Care

## REFERRING VET

Dr. Bailey

## INVOICE

33906

## DATE

1/1/22

## 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. 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 adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. The **left ventricular outflow** velocity was mildly excessive, typical for the breed, not clinically significant. 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. 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. Arrhythmogenic activity noted during the exam.

## ULTRASONOGRAPHIC FINDINGS

- Structurally and functionally normal echocardiogram with periodic arrhythmia



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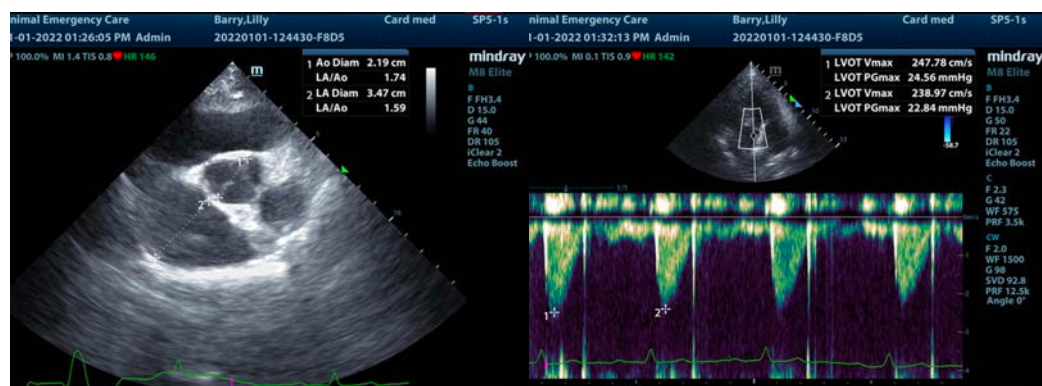
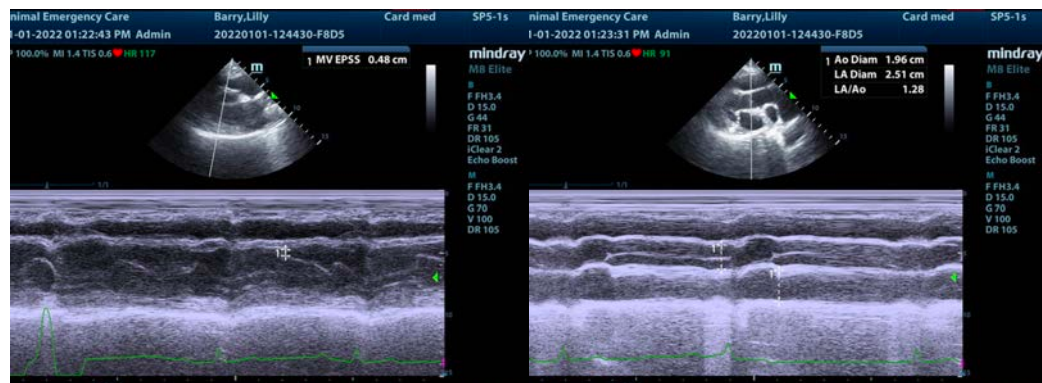
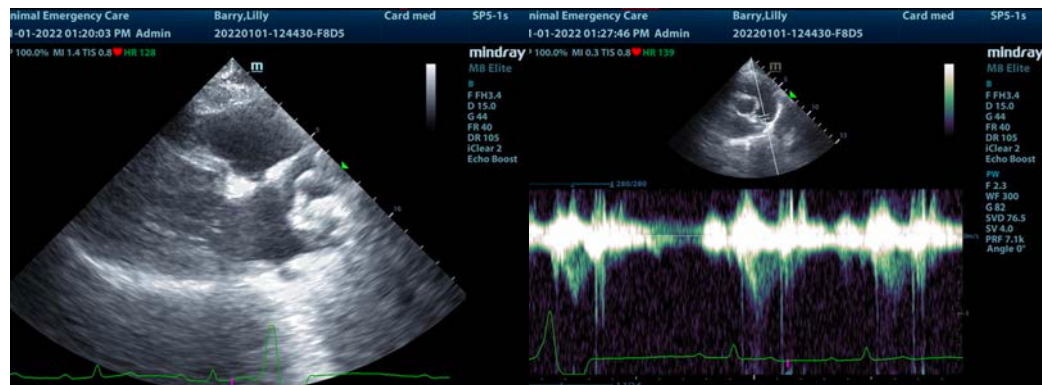
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Arrhythmogenic Boxer cardiomyopathy likely. Holter monitor warranted to monitor and specifically treat arrhythmic activity. No evidence of primary cardiac volume oriented or functional disease noted other than that which is induced by arrhythmia. Given the coughing and collapsing, “cough drop” syndrome may be an issue with this patient with periodic increased vagal tone induced by coughing. However, this can be captured by holter monitor as well.





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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. 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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