



PATIENT

Zoe Krebs

SPECIES

Canine

BREED

Havanese

SEX

Spayed Female

AGE

12.5 Years

WEIGHT

13 Pounds

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Jennifer Todd

HOSPITAL NAME

Lamb's Gap AH

REFERRING VET

Dr. Jennifer Todd

INVOICE

20226

DATE

12/20/22

PRESENTING CLINICAL SIGNS

History: Zoe is a twelve year old, FS, Havanese who was presented as a new patient last December (2021). On exam, she had a grade IV/VI left apical systolic heart murmur and dental disease. Zoe's owner did not report any concerns. Bloodwork and echo was advised prior to dental. On yearly exam this year (11/22/22), Zoe's owner reported that she had a cough that had progressed slightly. A grade III/VI heart murmur was ausculted and cardiac work-up/echo was advised. Zoe's owners called on 12/12/22 and reported that her cough had gotten very bad. Echo was advised immediately. ECG is attached as a pdf for your information Blood pressure today was 130/75, 117/85, 117/85 today. Bloodwork including CBC, Chemistry, cardiac proBNP was sent to lab today

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	>5.0	--	1.9	2.1	65	93	0.1
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	117	1.50	.70	--	4.0	3.5	--

Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements. Left atrial and left ventricular dilation was noted. The left ventricle presented volume overload. Prolapse of the anterior mitral valve leaflet was noted. Doppler indicated measurable insufficiency. 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 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and**



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pericardial regions were free of masses in the visible window. Arrhythmogenic activity was noted during the sonogram. Slight hepatic vein dilation was noted.

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Canine

- Advanced stage B-2 to early C-1 valvular disease with mitral valve prolapse
- Slight hepatic vein dilation
- Arrhythmogenic activity noted during the sonogram

BREED

Havanese

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

I'm concerned for emerging C-1 valvular disease in this patient. I recommend EKG in this patient. Pimobendan 0.3 mg/kg BID, ace-inhibitor 0.5 mg/kg SID, progressing to BID and spironolactone 1-2 mg/kg BID could be considered, however, there is no consensus for the use of the latter two medications in this patient. Given the cough, likely mainstem bronchus impingement would explain the cough in this patient- low dose Lasix could also be considered depending upon radiographic findings. Recheck echo in one month. Holter monitor may be necessary in this patient for antiarrhythmic therapy, depending upon EKG findings.

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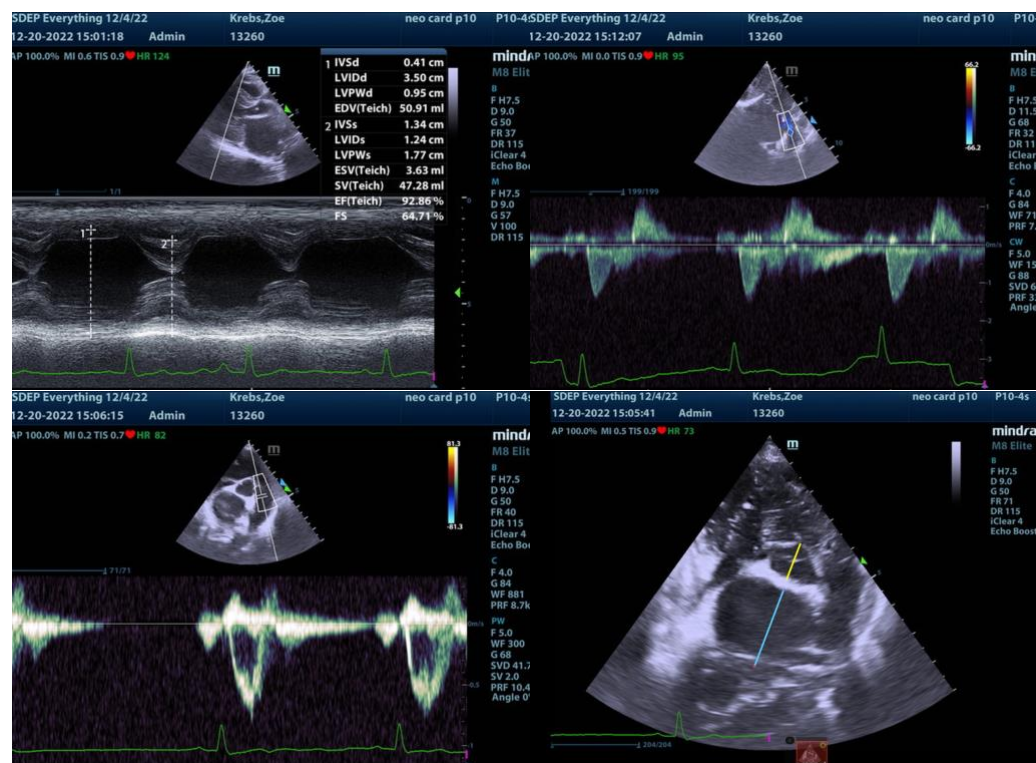
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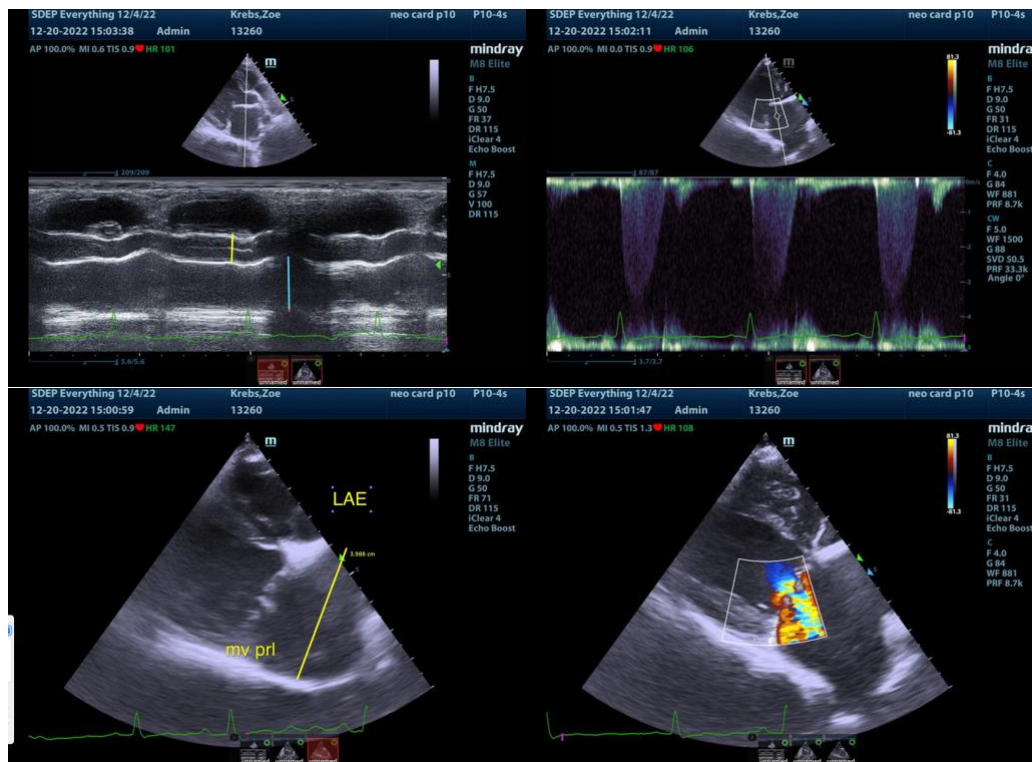
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. 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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