



## PATIENT

Noodle Helmstetter

## SPECIES

Canine

## BREED

Chihuahua

## SEX

Neutered Male

## AGE

9 Years 4 Months

## WEIGHT

5.77

## INTERPRETED BY

Eric Lindquist, DMV,  
DABVP (CFM), Cert.  
IVUSS

## IMAGING PERFORMED BY

Heather

## HOSPITAL NAME

Animal Care Clinic of  
Flanders

## REFERRING VET

Dr. Hallihan

## INVOICE

73699

## DATE

3/13/26

## PRESENTING CLINICAL SIGNS

Breathing faster at rest. Grade 5/6 murmur - significantly increased (high intensity). Left atrial enlargement, mild peri-hilar edema on rads, VHS high nml (10.6), proBNP sig elevated, lyme positive (new), c6 high. Taking lasix vetmedin and adequan

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

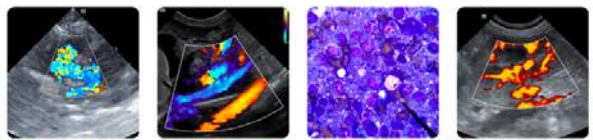
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	>5.0	3.0	1.5	2.0	50	80	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	LAD LA MAX 4 Chamber	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	90	1.2	80	5.77	3.3	2.5	--

## Cardiac Presentation

The echocardiogram for this patient presented excessive **left atrial size** expressed both in the LA/AO and LA max measurements. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Complete filling of the left atrium noted on doppler of the mitral valve, consistent with severe mitral insufficiency. Severe prolapse of the anterior mitral valve leaflet noted. 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** insufficiency noted. 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 pericardial regions** were free of masses in the visible window.

## ULTRASONOGRAPHIC FINDINGS

- Moderately decompensated C1 valvular disease.



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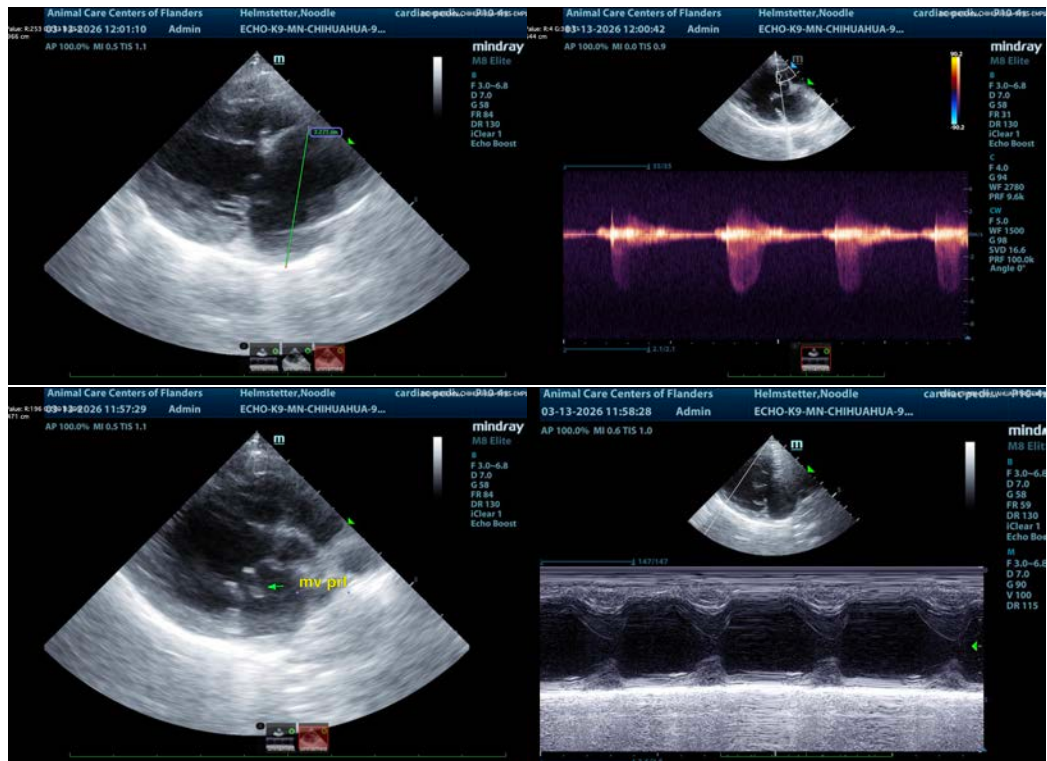
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## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

In addition to Pimobendan and Lasix therapy, recommend adding ACE inhibitor 0.5 mg/kg SID progressing to BID, and adding Spironolactone at 1-2 mg/kg SID. Increase in Lasix may also be necessary. Cough suppressant such as hydrocodone warranted and recheck echo in one months.

The heart is in a somewhat precarious state with volume overload and a heart that is working to compensate for the valvular insufficiency. Target respiratory rate is < 20 resp/minute after therapy. After initiating therapy, I recommend recheck on the clinical exam, BUN, Creatinine, USG, Chest radiographs & Blood pressure in 5-7 days. Recheck echo in 1 month. Earlier if clinical decompensation is occurring. I do not recommend anesthesia at this time until stabilization has occurred on the recommended medications. Repeat preanesthetic echo is ideal if anesthesia is eventually necessary. There is severe anesthetic risk for this patient. Light dose opioids may be used to calm but I do not recommend anesthesia.





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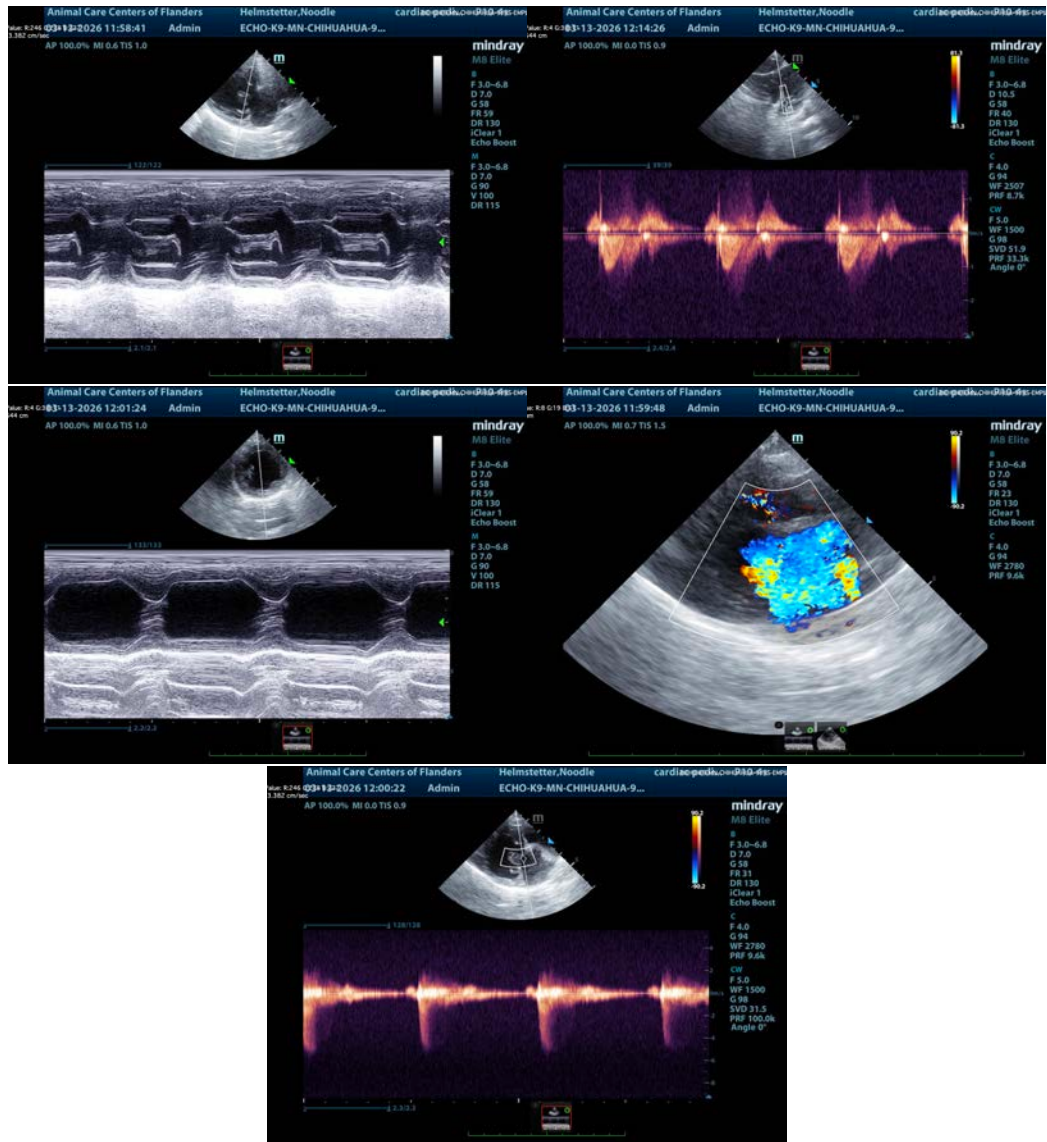
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

**Eric Lindquist, DMV, DABVP(CFM), Cert. IVUSS,**  
CEO, Owner, Founder -- SonoPath.com  
[info@SonoPath.com](mailto:info@SonoPath.com)