

**PATIENT PRESENTING CLINICAL SIGNS**

Brody Kinsora History: 6/6 murmur, assess for needed medication. on vetmedin 2.5 mg x 1/2 bid

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

Canine

BREED

Morkie

SEX

Intact male

AGE

13 years

WEIGHT

11 lbs

INTERPRETED BY

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Diane McFadden, RVT

HOSPITAL NAME

Animal Hospital Sussex  
County

REFERRING VET

Dr. Catania

INVOICE

40201

DATE

10/20/22

The echocardiogram in this patient demonstrated enlarged **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Prolapse of the anterior mitral valve leaflet was noted. Doppler indicated measurable insufficiency. The **left ventricle** presented volume overload and eccentric hypertrophy. 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 was 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. Comet tail lung pattern.

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	5.11		> 2.5	1.9	41	73	0.26
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	185	1.49			3.94	3.55	

**ULTRASONOGRAPHIC FINDINGS**

Moderate to severe left atrial enlargement.  
 Progressive mitral insufficiency.  
 Minor tricuspid insufficiency.  
 Comet tail lung pattern. Suggestive for pulmonary edema.



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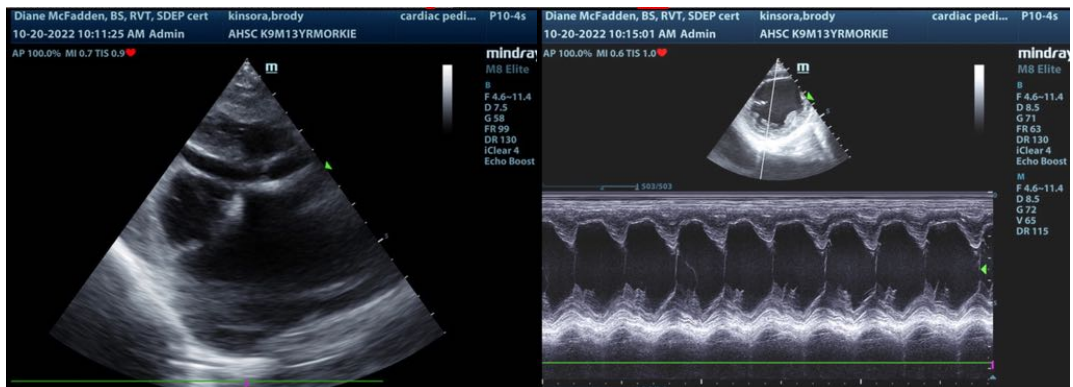
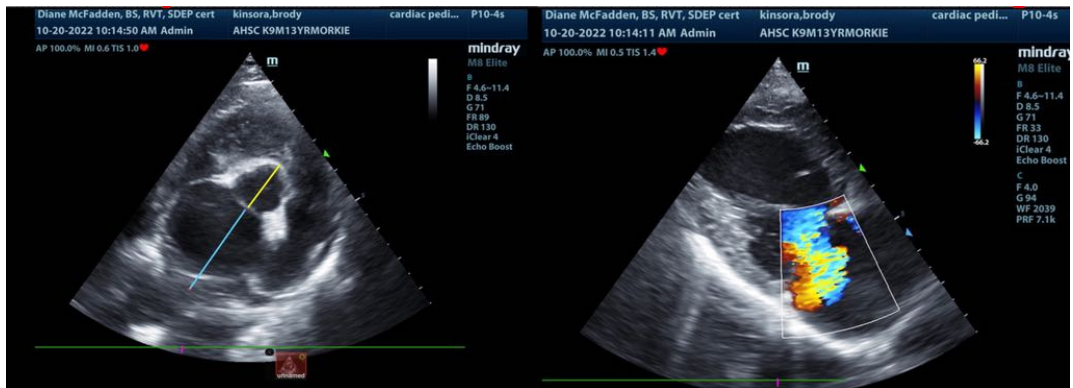
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The patient is entering into C1 valvular disease. I recommend triple therapy. Pimobendan is recommended at 0.3 mg/kg b.i.d. Ace inhibitor at 0.5 mg/kg s.i.d. progressing to b.i.d. is recommended as well as Lasix at 1-2 mg/kg b.i.d. Spironolactone can also be considered at 1-2 mg/kg b.i.d. Progressive mitral and tricuspid insufficiency.

The heart has some volume overload and 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 3-6 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.





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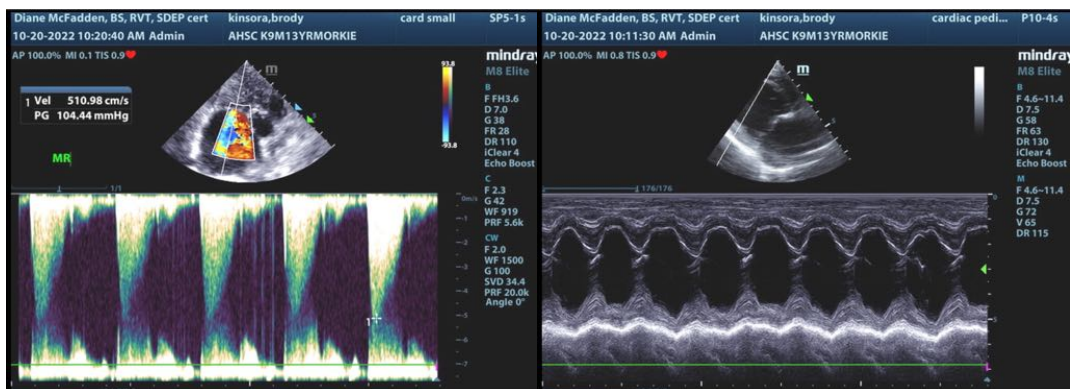
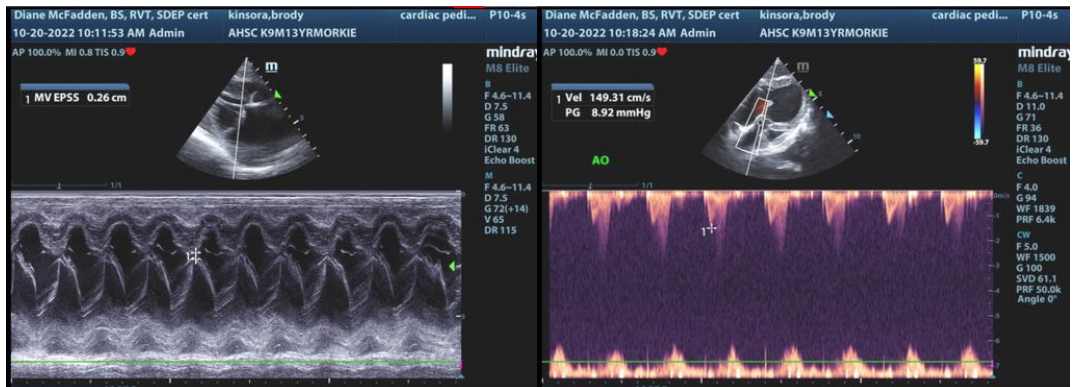
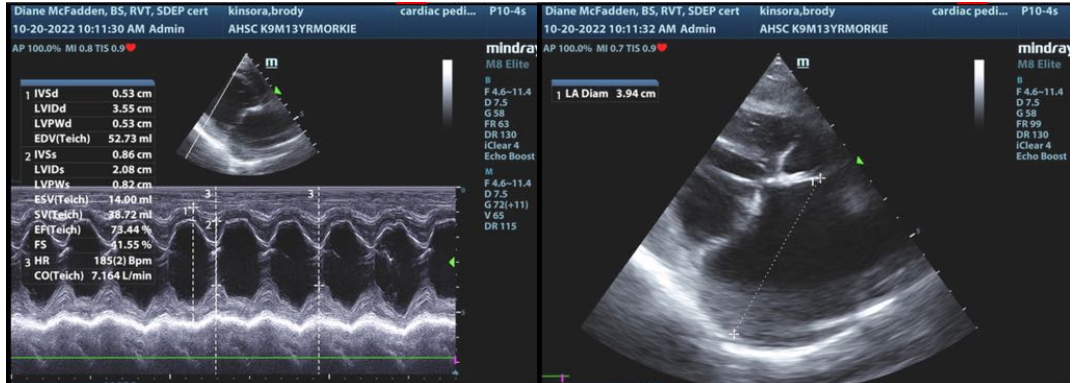
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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, Cert. IVUSS, CEO of SonoPath.com  
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