



PATIENT PRESENTING CLINICAL SIGNS

Tex Landers Repeat echo, pt coughing and has labored breathing w/ activity Current meds: Pimobendan, cough tabs

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Canine

BREED

Pomeranian

SEX

Neutered Male

AGE

11 Years

WEIGHT

18.4 Pounds

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	5.6	1.6	NM	2.2	37.8	68.2	0.41
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	67	1.9	0.93		5.0	4.2	

Cardiac Presentation

The echocardiogram for this patient presented moderately to severely excessive **left atrial size** expressed both in the LA/AO and LA max measurement, with mild horizontal component. Deviation of the intraatrial septum towards the right atrium, consistent with increased left atrial pressure was present. The cranial and caudal **mitral valve** leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented normal thicknesses with linear contour with increased left ventricular volume. 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 concurrent mild thickening with minor TR. 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

- Progressive chronic mitral valve disease (ACVIM Stage C)
- Mild tricuspid valve insufficiency – estimated pulmonary pressure gradient not overtly consistent with clinical pulmonary hypertension.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Newton Vet Hospital

REFERRING VET

Dr. Verhalen

INVOICE

36807

DATE

4/12/22



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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Although the LA/AO measurement was essentially static compared to the previous echocardiogram, progressive left atrial enlargement exhibiting mild horizontal component was present along with subjective static to mildly increased left ventricular volume, consistent with left heart volume overload. The labored breathing in this patient is suspected to be secondary to potential pulmonary edema development, while the coughing in this patient may potentially be owing to mainstem bronchi compression owing to left atrial enlargement.

Continued Pimobendan at 0.3 mg/kg PO BID with the addition of diuretic therapy (specifically Lasix/Spironolactone combination at 1-2 mg/kg PO BID) with continued antitussive medication recommended. Monitoring of resting respiration rate, renal parameters, and assessment of BP suggested. Exercise restriction may be considered, given reported labored breathing with activity until clinical reassessment following additional medications, as well as stabilization suggested. Recheck echocardiogram suggested in 4-6 months, sooner if continued clinical signs suggestive of left-sided congestion are noted.

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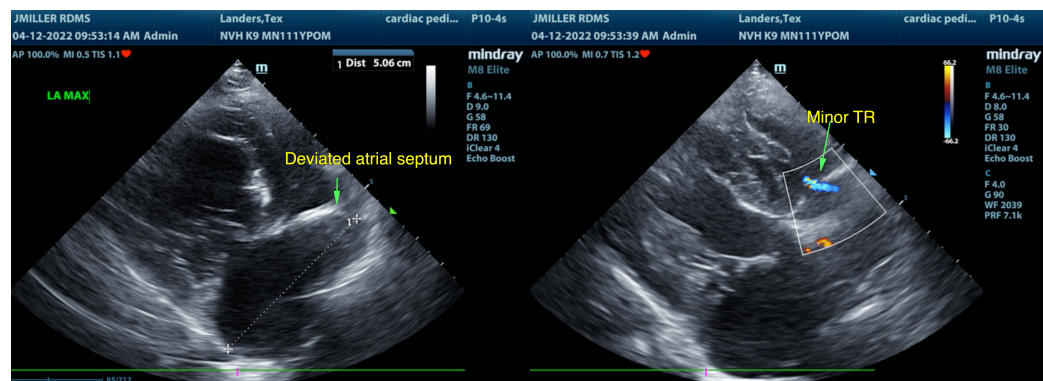
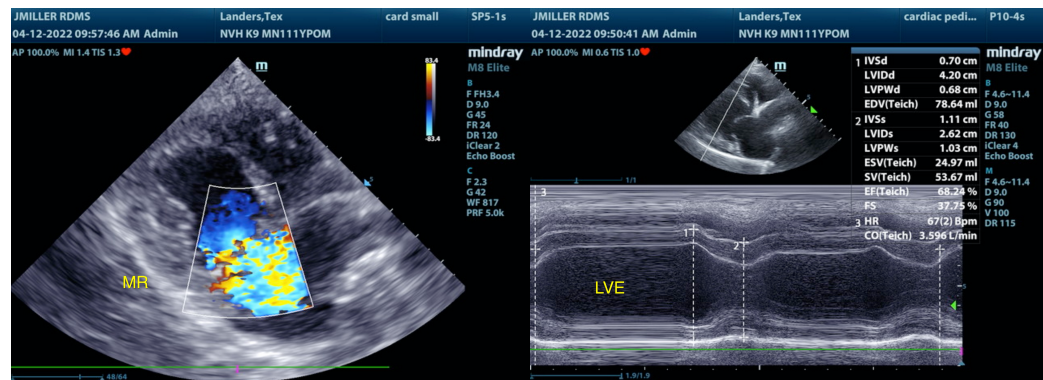
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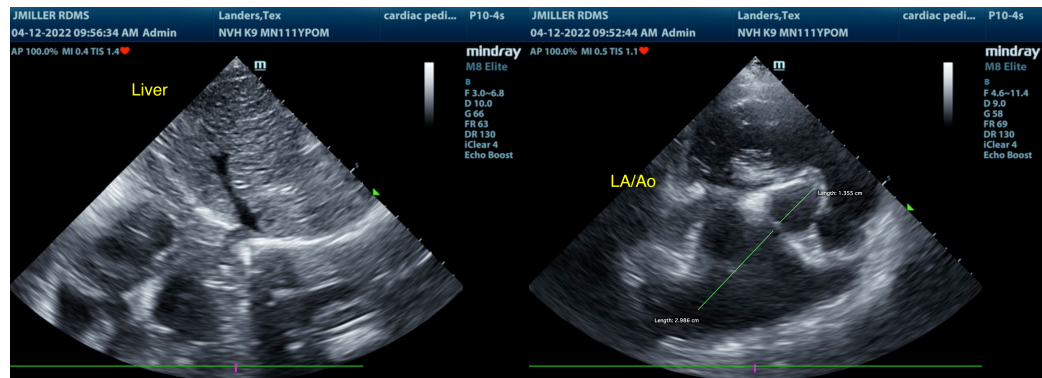
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)

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