



PATIENT PRESENTING CLINICAL SIGNS

Tex Landus Grade III/VI systolic heart murmur, coughing at home, not currently on any meds

SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART

Canine

BREED

Pomeranian

SEX

Neutered Male

AGE

11 Years

WEIGHT

19 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			2.0	2.5	45	79.8	0.55
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	104	1.7	1.1		3.9	4.0	

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Newton Vet Hospital

REFERRING VET

Dr. Uyman-Greenwald

Cardiac Presentation

The echocardiogram for this patient presented moderate **left atrial** enlargement based on 3 separate LA measurement methods. Mild deviation of the intraatrial septum towards the right atrium indicative of increased left atrial pressure was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis with potential for minor septal leaflet prolapse. Doppler indicated measurable eccentric insufficiency. The **left ventricle** presented thicknesses with primarily maintained 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 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 pericardial regions** were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B2, potential emerging stage C)
- Mild tricuspid valve insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

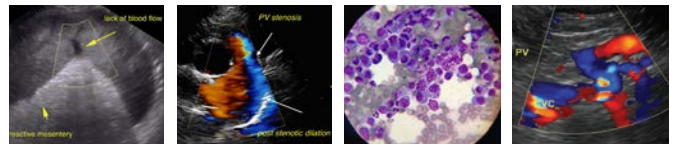
The increased left atrial size as well as increased left ventricular volume indicate that the risk of future complication is elevated. The coughing in this patient may be multifactorial in nature if no evidence of

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PATIENT

Tex Landus

current pulmonary edema. Some degree of mainstem bronchi irritation or compression owing to left atrial enlargement may be possible. Given these findings, Pimobendan at 0.3 mg/kg PO BID as well as assuming no evidence of pulmonary edema, weak diuretic such as Spironolactone at 1-2 mg/kg PO BID suggested. Hydrocodone may prove beneficial given the potential for mainstem bronchi irritation or compression. Baseline monitoring of resting respiration rate at home is recommended. Recheck echocardiogram suggested in 6 months, sooner if clinical signs consistent with heart disease (i.e., definitive pulmonary edema, exercise intolerance, continued coughing, etc.) are noted.

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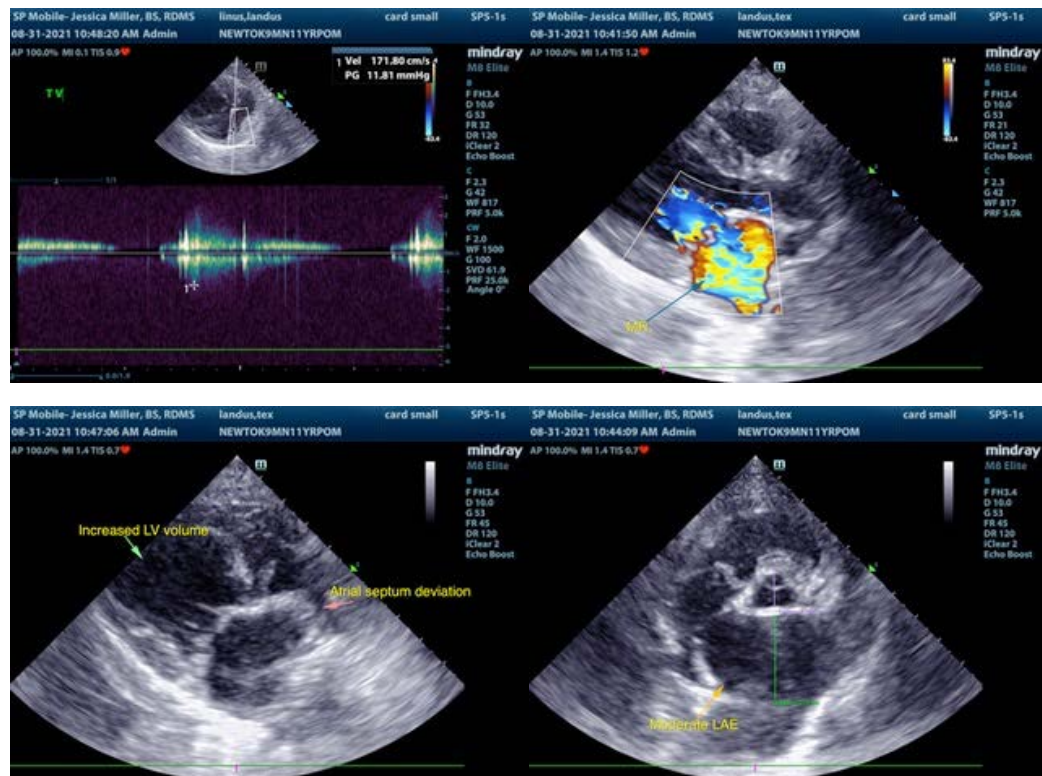
Dr. Uyman-Greenwald

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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.

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