


**PATIENT**

Murray Greenwood

**SPECIES**

Canine

**BREED**

Fox Terrier

**SEX**

MN

**AGE**

12yr

**WEIGHT**

14.4lb

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Dr. Evoniuk

**HOSPITAL NAME**

State Avenue Vet

**REFERRING VET**

Dr. Evoniuk

**INVOICE**

12489ag

**DATE**

12/20/2022

**PRESENTING CLINICAL SIGNS**

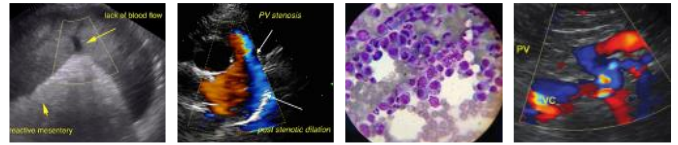
General Appearance: BA/fractious for handling. Arrived muzzled and with Trazadone on board., BCS 5/9 CRT/MM: WNL Eyes: Corneas clear, lenticular sclerosis, iris atrophy. direct and consensual PLRS intact, pupils normal size, symmetrical, sclera white, no ocular discharge Ears: No exudate observed, no redness present Oral Cavity: O reports gingival mass and dental calculus. Kept muzzled during the visit due to temperament Nasal Cavity: No nasal drainage, nares WNL Cardiovascular: Heart murmur detected, systolic Respiratory: Lungs auscultate clear bilaterally; trachea clear; no reported increase in RR or effort at home Abdomen: Abdomen palpates normally and very tense Rectal: Did not perform rectal exam Musculoskeletal: Normal ambulation/no lameness reported Integument: Normal amount of shedding; skin/coat WNL Lymph Nodes: Lymph nodes normal in size Urogenital: External genitalia appears normal Neurologic: No apparent abnormalities noted Long claws noted Syncope- RO cardiac vs cough/gag induced vs other Generalized anxiety Senior pet Lenticular sclerosis Dental disease/oral mass

**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				1.9	53.6	87	0.25
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	NM	NM	0.6		3.5	3.8	

**Cardiac Presentation**

The echocardiogram for this patient presented mild to moderate increased left atrial size expressed both in the LA/AO and LA max measurements with subjective mild horizontal component to the LA enlargement. The cranial and caudal mitral valve leaflets presented moderate thickening consistent with endocardiosis with mild prolapse of the septal mitral valve leaflet. Doppler indicated measurable mild to moderate eccentric insufficiency. The left ventricle presented thicknesses with linear contour and subjective subtle to minor increased 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 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. No overt cor pulmonale. Pulmonic tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Pulmonic insufficiency present on Doppler. No visible pericardial or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible.



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The cranial mediastinum and pericardial regions were free of masses in the visible window. No overt arrhythmia.

**ULTRASONOGRAPHIC FINDINGS**

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- Chronic mitral valve disease (ACVIM B2) with mild septal leaflet prolapse
- Pulmonic insufficiency

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**BREED**

Fox Terrier

The degree of LA enlargement indicates that the risk of complication is mild to moderately elevated. Although overt tricuspid valve insufficiency was not present or measured, the lack of RA/RV enlargement as well as normal appearance to the pulmonary artery indicates clinical pulmonary hypertension is less likely. Potential for intermittent to paroxysmal arrhythmia cannot be excluded. Pimobendan 0.3 mg/kg PO BID is warranted at this stage given evidence of LA/minor LV enlargement as this medication may help prolong cardiac changes associated with mitral valve insufficiency. ECG is recommended if possible. No indication for diuretic therapy unless evidence of increased resting respiration rate or radiographic pulmonary edema. Prognosis is highly variable and serial sonographic monitoring is required for further prognosis. Recheck echocardiogram recommended in 6 months, sooner if clinically indicated.

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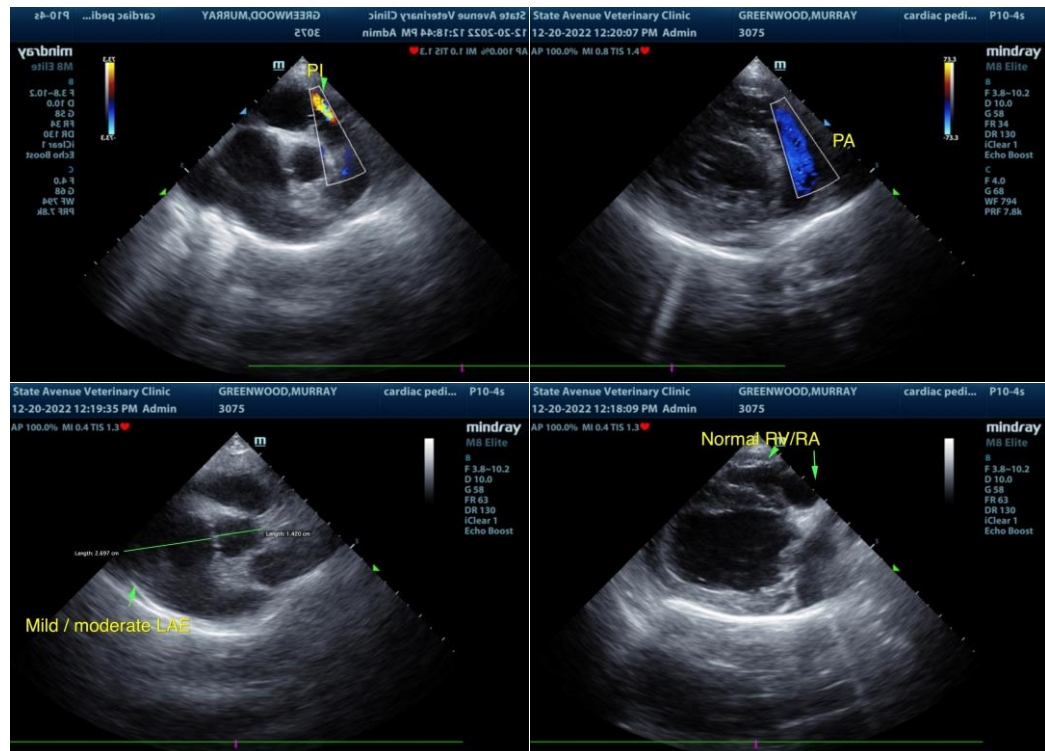
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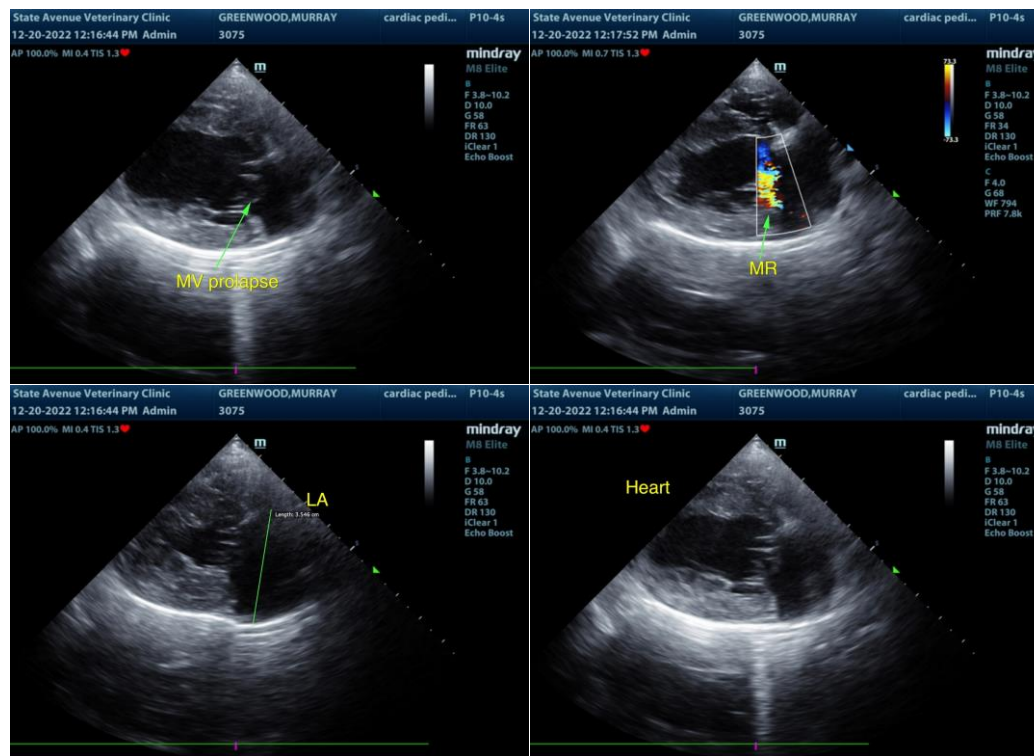
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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