



PATIENT

Patch Plessner

PRESENTING CLINICAL SIGNS

Hx of Allergies and Hx of grain free diet. Currently on Apoquel, melatonin, cetirizine and omeprazole. A split s2 heart sound was noted.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

BREED

English Bulldog

SEX

Neutered Male

AGE

7 Years

WEIGHT

57.5 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		1.6	1.55	1.45	27.4	53.5	0.76
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	155	1.6	1.1		4.2	4.4	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. Color doppler assessment revealed minor, primarily centralized insufficiency. The **left ventricle** presented normal thicknesses with maintained linear contour with subjective mild increased left ventricular volume. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was mildly subnormal as 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. Color doppler assessment revealed concurrent trace tricuspid valve insufficiency. The **right ventricle** exhibited mild increased size compared to the left ventricle, yet overall normal chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum** and **pericardial** and **extra-cardiac** regions were free of masses in the visible window.

ULTRASONOGRAPHIC FINDINGS

- Mild subjective increased left ventricular volume and mild decreased left ventricular contractility
- Minor MR/TR
- Normal left atrium

INTERPRETED BY

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

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. George, Country Vet Service

INVOICE

33330

DATE

12/7/21



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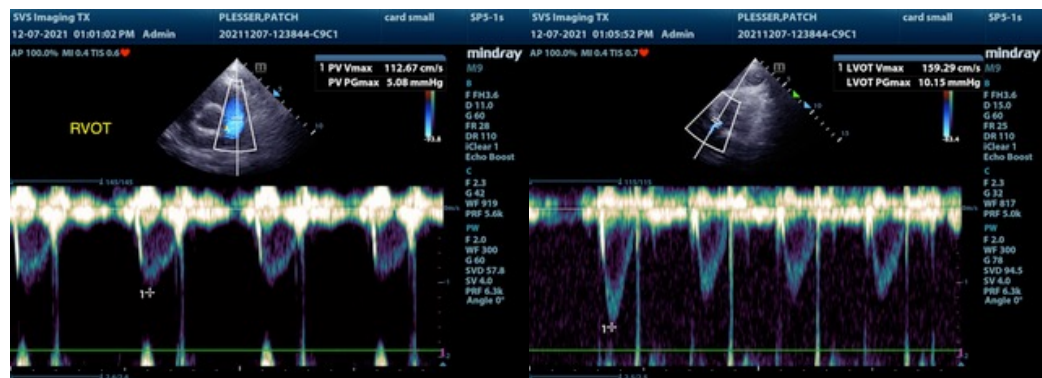
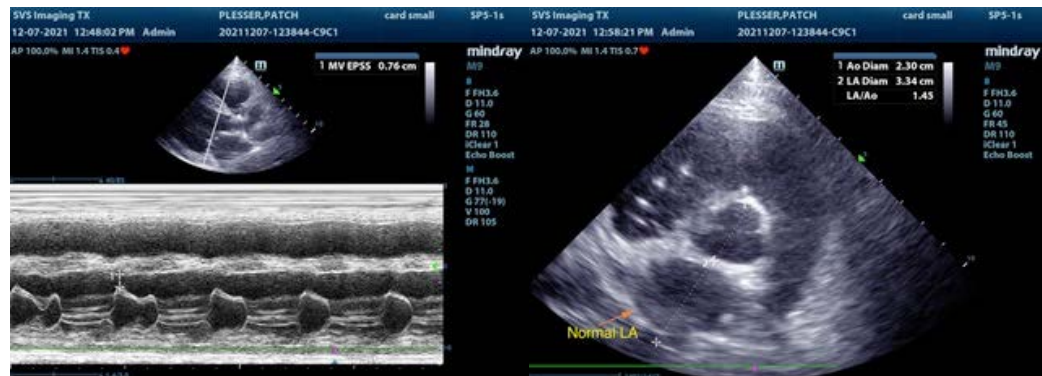
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cardiac presentation in this patient may be a normal age related or breed variant. However, the subjective mild LV dilation and decreased LV contractility may indicate emerging cardiomyopathy, which may be primary in nature (potential emerging primary DCM-like cardiomyopathy) or secondary to taurine deficiency given the history of grain-free/boutique diet, myocarditis, or less likely infiltrative disease such as lymphoma.

The lack of left atrial enlargement indicates that the overall risk for complication is low, and no other clinical issues such as overt pulmonary hypertension were noted.

In general, the reported split S2 heart sound may be secondary to delayed closure of the pulmonic valve (pulmonary hypertension – not overtly present, right bundle branch block, VPCs, pulmonic stenosis – not present) or due to delayed closure of aortic valve (left bundle branch block, VPCs, subaortic stenosis – not present, or systemic hypertension). ECG and blood pressure assessment recommended.

Empirically, switching to a traditional diet as well as empirical taurine supplementation with recheck echocardiogram suggested in 3-4 months to assess for evidence of progression or improvement in cardiac presentation is recommended. Correlation with full lab work to rule out potential metabolic disease suggested.





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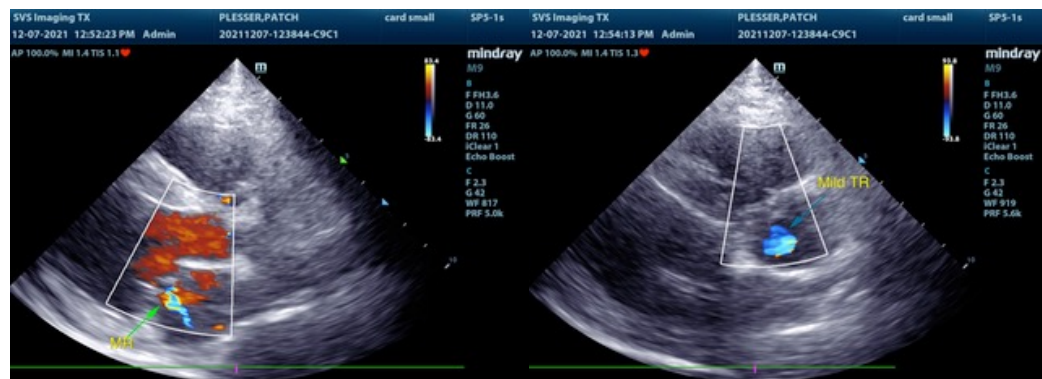
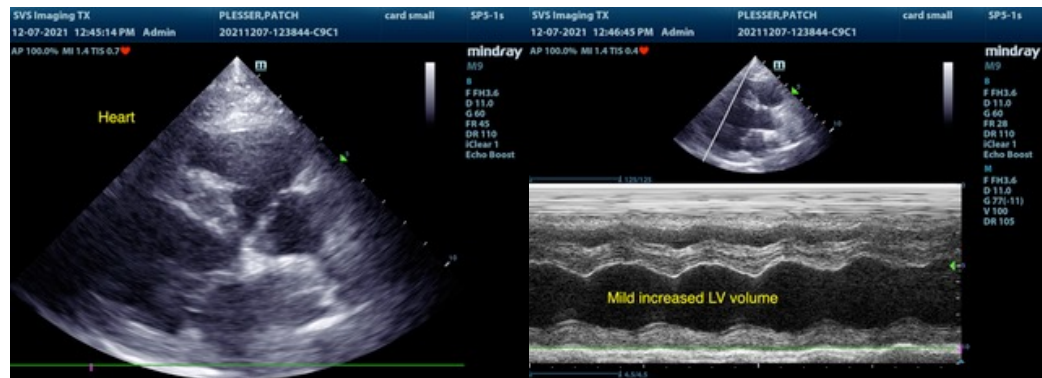
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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