



PATIENT

Luci French

SPECIES

Canine

BREED

Shih Tzu

SEX

MN

AGE

13 years

WEIGHT

22 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Martinsville VH

REFERRING VET

Dr. Weltner

INVOICE

16381

DATE

3/15/23

PRESENTING CLINICAL SIGNS

Feb 2023 o reported frequent coughing. Chest rads 3/11/23 borderline cardiomegaly, no collapsing trachea noted. Current meds: Glucosamine

Abnormal PE/Chem/CBC/UA Results: K+ 5.5, Na:K 26, Cl 105, ALP 622

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				1.1	48	82	0.13
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	179	1.4	0.93		2.1	1.9	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size and structure. Chamber volume and blood echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented minor irregular age-related changes that are not clinically significant at this time with adequate extension in systole and union in diastole. Minor eccentric MR was present on Doppler. The **left ventricle** presented normal free wall and septal thicknesses with mild alinear contour. The **myocardium** revealed some echogenic remodeling consistent with expected age-related change. Normal LV volume was noted. **Contractility** of the ventricular walls was adequate and in normal range for this breed and patient size. The **left ventricular outflow** tract demonstrated normal laminar flow with subjectively unremarkable structure. Normal measured LVOT velocity was noted. Subjective assessment of the **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated expected findings for this age patient. No overt TR was present on Doppler. The **right ventricle** was of normal size (1/3 diameter of LV), echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Normal measured RVOT velocity was present. No dilation due to cuor pulmonale or overt pulmonic hypertension criteria was noted. No visible **pericardial** or free pleural fluid was noted. The **mediastinum** was free of masses in the visible window.



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ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function with minor myocardial remodeling
- Normal left atrium
- Minor eccentric MR

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No sonographic evidence of overt or significant structural or functional cardiomyopathy was noted. No clinical issues such as left or right heart chamber enlargement, LV systolic dysfunction, or evidence of clinical pulmonary hypertension were noted. The minor eccentric MR is not suspected to be audible and is not considered clinically significant.

Given this presentation, the coughing in this patient appears to be noncardiogenic in origin. Consideration for primary upper or lower airway disease is indicated. No indication for cardiac medications. As-needed respiratory support is suggested. Recheck echocardiogram may be considered in 8-12 months, sooner if a progressive murmur is noted or if additional clinical signs suggestive of cardiac disease arise.

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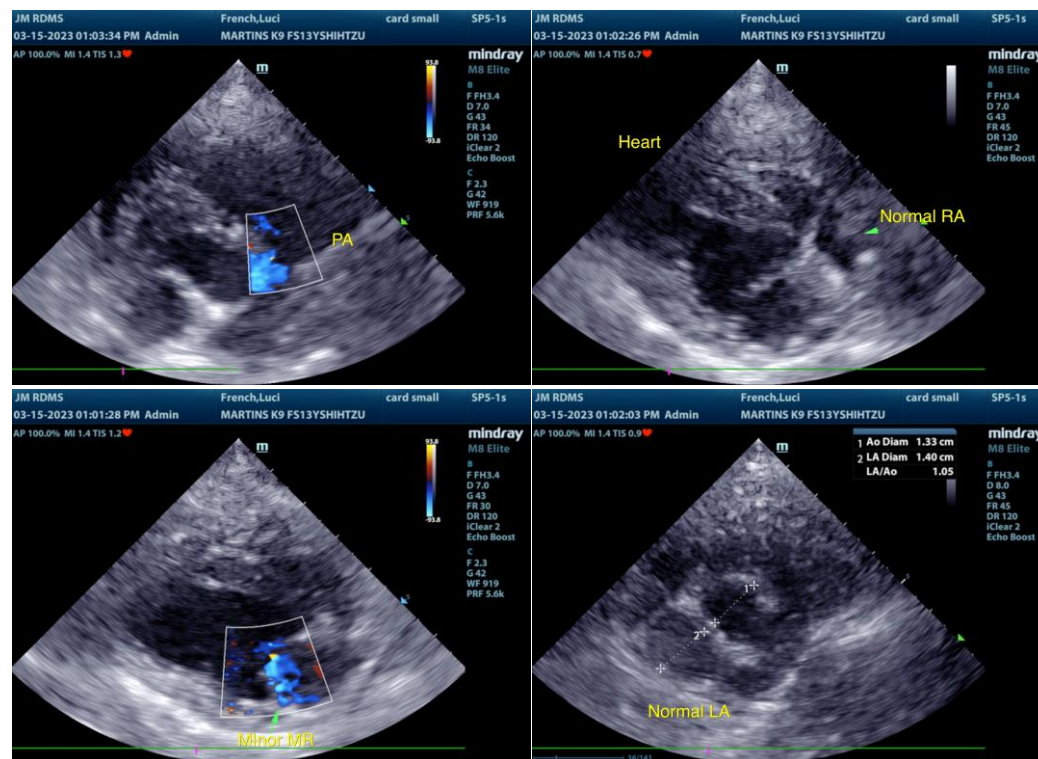
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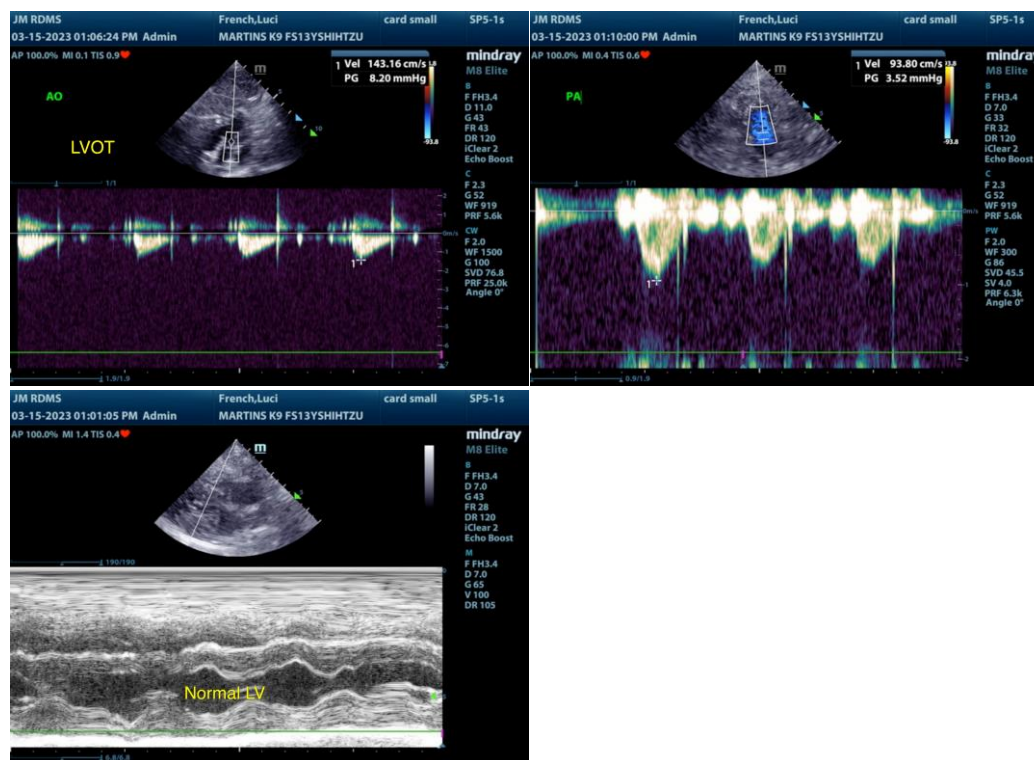
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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