



PATIENT

Foxy Belle Allen

SPECIES

Canine

BREED

Chihuahua Mix

SEX

FS

AGE

13.5 years

WEIGHT

9.2 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

PRESENTING CLINICAL SIGNS

Pre-anesthetic CUS for dental. Low grade heart murmur. Prev. echo 11/11/21 revealed only minor compensated valvular insuff., but current ECG 2/17/22 now shows 2nd degree AV block and ventricular arrhythmia. Hx Hypothyroid, COPD, Suspect Cushings, but ACTH/LDDST have been normal. Current meds: Theophylline 100mg 1/2 tab bid, Thyro-tabs 0.2mg 1/2 tab bid, Melatonin 2mg sid, Denamarin 225mg 1/2 T sid

Abnormal PE/Chem/CBC/UA Results: PLT 786, ALT 131, ALP 729, Lipase 391, K+ 5.8 (presumably secondary to thrombocytosis), T4 3.2. U/A- USG 1.029, UPC 2.3, Prot 3+

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	<1.6	28-40	40-100	<0.6
PATIENT	5.0	<1.0	1.33	1.37	50	83.6	0.32
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	115	1.2	0.96		2.3	2.21	

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable mild eccentric insufficiency. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. 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

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mediastinum and pericardial regions were free of masses in the visible window. No overt evidence of significant arrhythmogenic disease was noted.

ULTRASONOGRAPHIC FINDINGS

- Continued compensated chronic mitral valve disease (ACVIM B1)
- Minimal TR - no overt clinical pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cardiac presentation was similar to the previous echocardiogram without evidence of progression. The continued lack of left atrium or left ventricle enlargement indicates that the hemodynamic effects of the mitral valve insufficiency are minimal and that the risk of current and future complications is low at this time.

Given these findings, no overt indication for cardiac medications used to treat structural or functional cardiomyopathy was evident. Assuming normal blood pressure, no overt anesthetic contraindication was noted based on the structural and functional cardiac presentation. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs consistent with heart disease arise.

Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.

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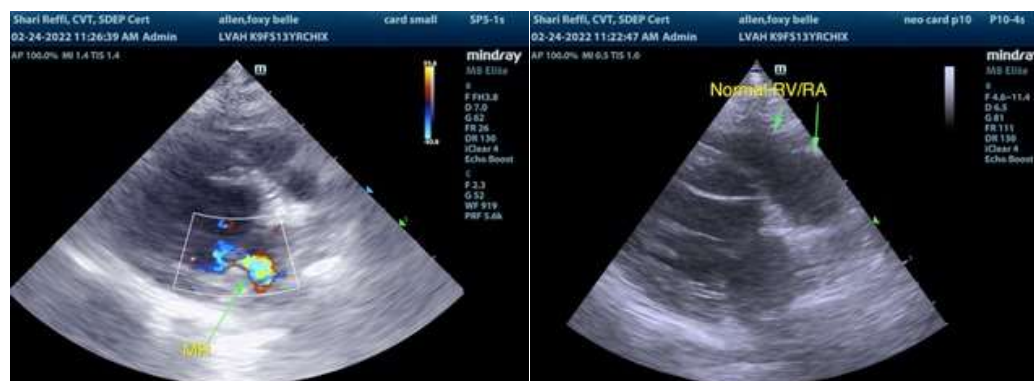
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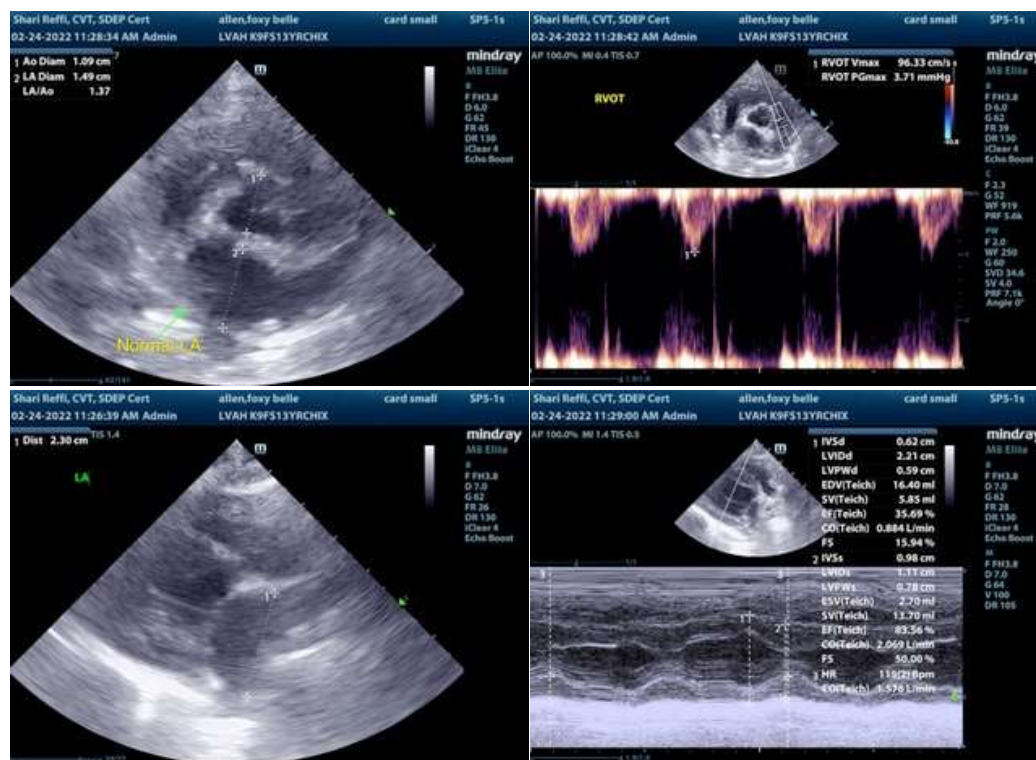
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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