



PATIENT

Benjamin Zsirou

SPECIES

Canine

BREED

Shih Tzu

SEX

M/N

AGE

18 years

WEIGHT

N/A

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Advanced VC

REFERRING VET

Dr. Weingartner

INVOICE

16278

DATE

2/23/23

PRESENTING CLINICAL SIGNS

chronic cough, 4/6 systolic murmur. On cerenia and clavamox
Abnormal PE/Chem/CBC/UA Results: nsf

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	6.0		1.5	1.43	57	88	0.26
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	126	1.4	1.1		4.0	3.4	

Cardiac Presentation

The echocardiogram in this patient demonstrated mildly enlarged **left atrial** size based on 3 different LA measurement methods. Subtle deviation of the interatrial septum towards the right atrium, suggestive of mild increased left atrial pressure, was present. The cranial and caudal **mitral** valve leaflets presented moderate thickening consistent with endocardiosis. No evidence of valvular prolapse was noted. Doppler indicated measurable moderate eccentric insufficiency. The **left ventricle** presented thicknesses with mild alinear contour and was not dilated nor restricted. The **myocardium** presented overall normal echogenicity with subjective age-related myocardial remodeling yet no 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. Normal measured LVOT velocity was noted. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses or right atrial enlargement. **Tricuspid** valvular assessment demonstrated mild thickening with mild TR on Doppler. 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). Normal measured LVOT velocity was present. 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.



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ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM Mild B2)
- Tricuspid valve insufficiency with normal right atrium / pulmonary artery - no overt evidence of clinical pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is secondary to chronic degenerative valvular changes with associated primary moderate eccentric MR and mild TR. The mild LA enlargement indicates that the risk of current and future complications secondary to MR is mildly elevated, yet overall the heart appears to be compensated. Given the lack of significant left or right heart chamber enlargement, or overt clinical pulmonary hypertension, the coughing in this patient is most likely noncardiogenic in origin. Primary concern for chronic lower airway disease is likely indicated.

Pimobendan 0.3 mg/kg PO BID is suggested, given the mild LA enlargement, as this medication may help prolong cardiac changes associated with MR. Three-view chest radiographs are suggested if not recently done. As-needed concurrent respiratory support is recommended.

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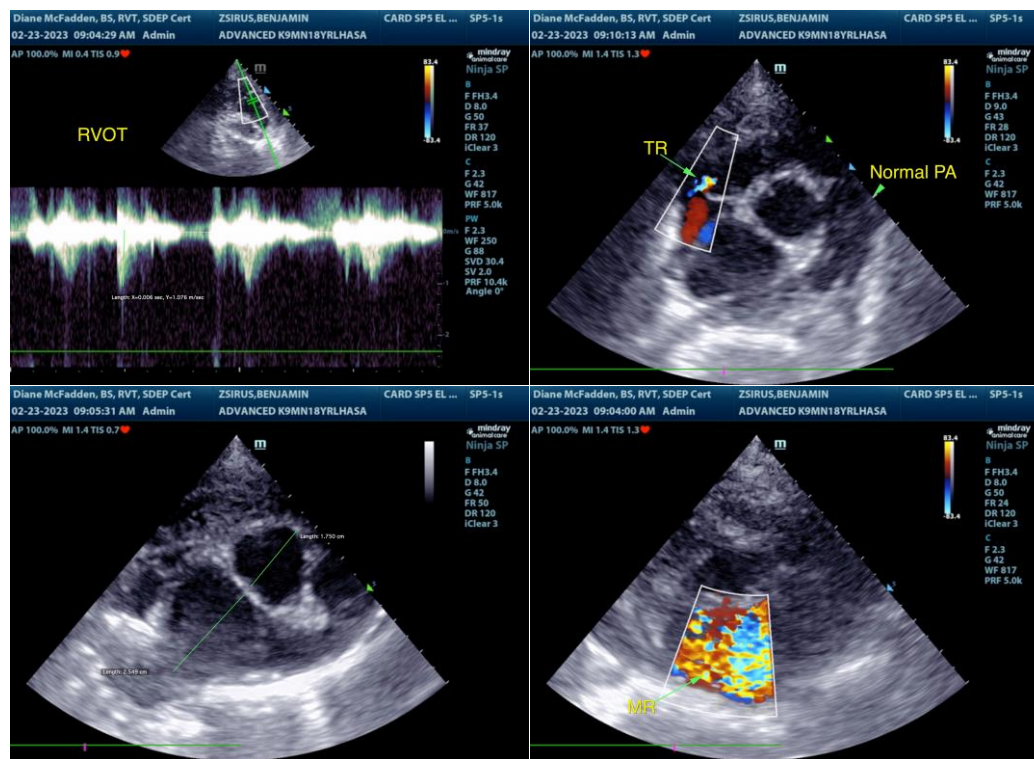
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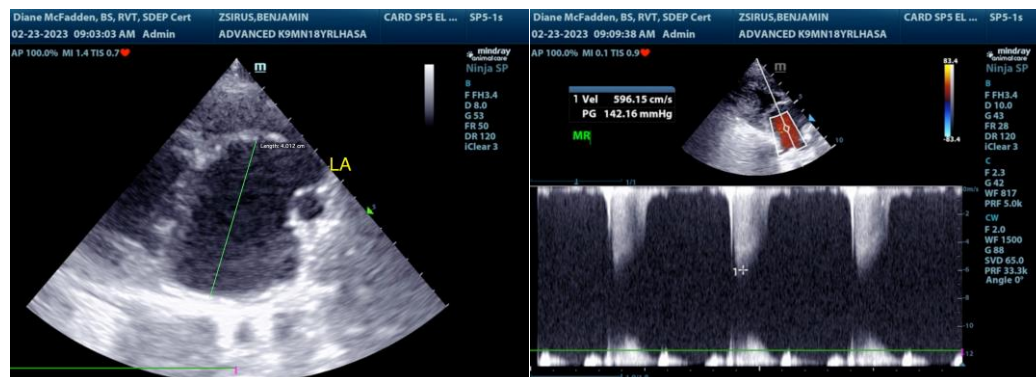
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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