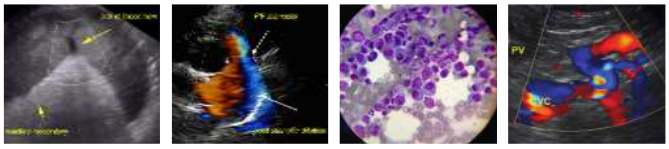
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Dakota Ross

SPECIES
Canine

BREED
Sheltie

SEX
FS

AGE
9 years

WEIGHT
25.7 lbs

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

IMAGING PERFORMED BY
Kim Liedberg

HOSPITAL NAME
SVS Imaging WI

REFERRING VET
Dr Scarbeck, Best Friends AH

INVOICE
13236

DATE
2/2/22

PRESENTING CLINICAL SIGNS

Coughing started 11/21 with no other heart symptoms. Returned 1/26/2022 for reoccurring coughing and a 1-2/6 heart murmur noted. Chest radiographs indicated reasonable cardia size with very mild parabronchial changes.
Abnormal PE/Chem/CBC/UA Results: no current BW

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	5.2	1.0		1.46	43.2	76.7	0.2
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	69	1.2	0.8		2.8	2.4	

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 subjective mild vegetative thickening consistent with mild endocardiosis. Doppler indicated mild measurable 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 **mediastinum and pericardial regions** were free of masses in the visible window. Subjective mild bradycardia was present.

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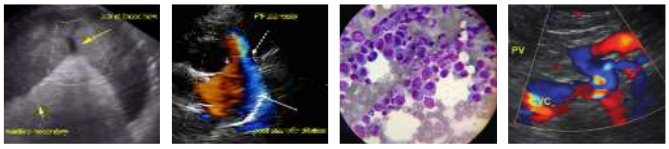

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ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- Subjective mild bradycardia

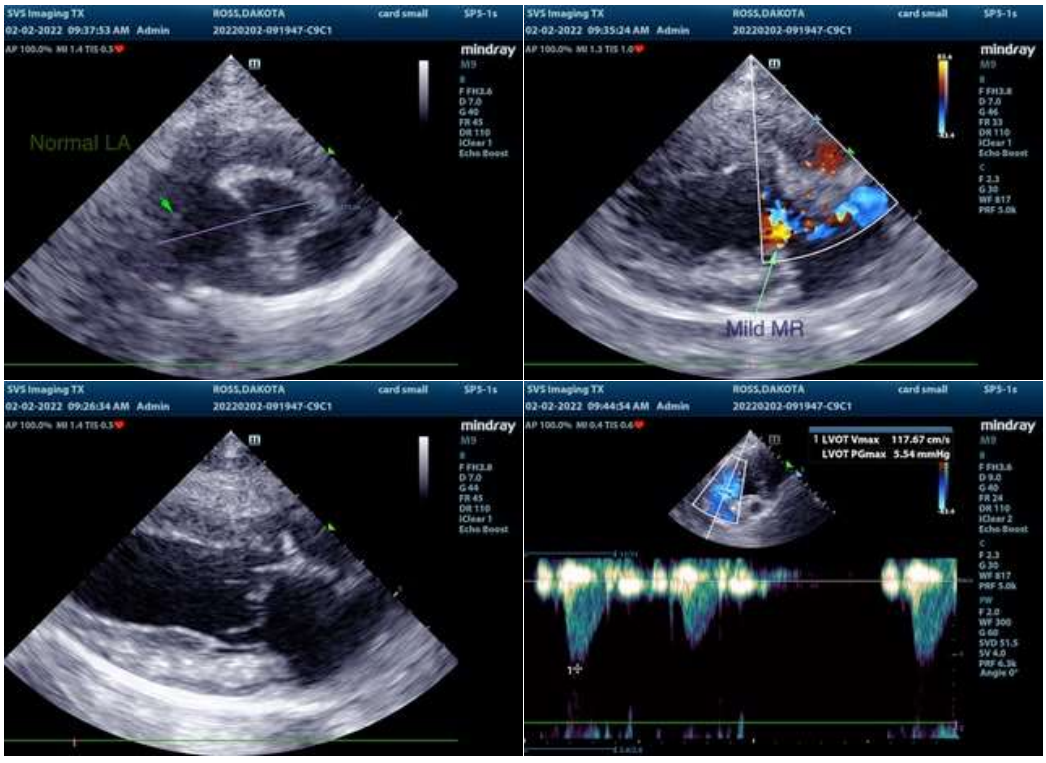
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is most consistent with mild chronic degenerative valvular changes and secondary mild eccentric mitral valve insufficiency. No other clinical Issues such as systolic dysfunction or evidence of clinical pulmonary hypertension were noted. The hemodynamic effects of the mitral valve insufficiency are mild without evidence of left atrium or left ventricle enlargement.

The lack of left or right heart chamber enlargement, clinical pulmonary hypertension, or systolic dysfunction indicates that the coughing in this patient Is noncardiogenic in origin. No indication for cardiac medications at this stage.

The subjective mild bradycardia Is of unclear clinical significance. ECG assessment is recommended for further clarification if persistent bradycardia is noted on auscultation.

Conservative monitoring of the murmur Is recommended with recheck echocardiogram suggested in 6-12 months, sooner if clinical signs suggestive of heart disease arise, or if murmur intensity Increases.



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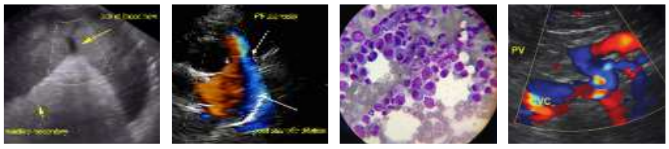

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
info@SonoPath.com