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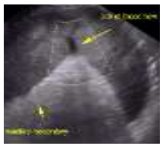
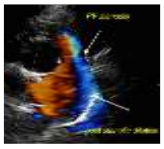
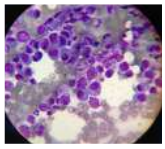
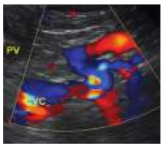

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1-800-838-4268 info@sonopath.com

PATIENT

Zoey Liesch

SPECIES

Canine

BREED

Poodle Mix

SEX

FS

AGE

10 years

WEIGHT

22 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr. Beyer-Beechwood AC

INVOICE

12474

DATE

10/28/21

PRESENTING CLINICAL SIGNS

-Hx of breathing hard for a few weeks. On PE in April/21 heart murmur was 3/6. 10/21 PE heart murmur now 4/6 Any heart meds recommended?

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	2.0	2.0	--	1.7	43.9	78.6	0.38
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	119	1.2	0.9		4.0	3.3	

Cardiac Presentation

The echocardiogram in this patient demonstrated moderately enlarged **left atrial** size based on 3 different LA measurement methods. Mild deviation of the interatrial septum towards the right atrium indicative of elevated left atrial pressure was present. The cranial and caudal **mitral** valve leaflets presented mild vegetative thickening suggestive of endocardiosis. Doppler indicated measurable eccentric to centralized insufficiency. The **left ventricle** presented thicknesses with linear contour with increased left ventricle volume. 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 mild subjective vegetative thickening with mild insufficiency noted on color doppler assessment. 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.

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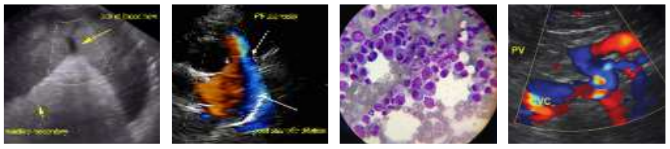

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ULTRASONOGRAPHIC FINDINGS

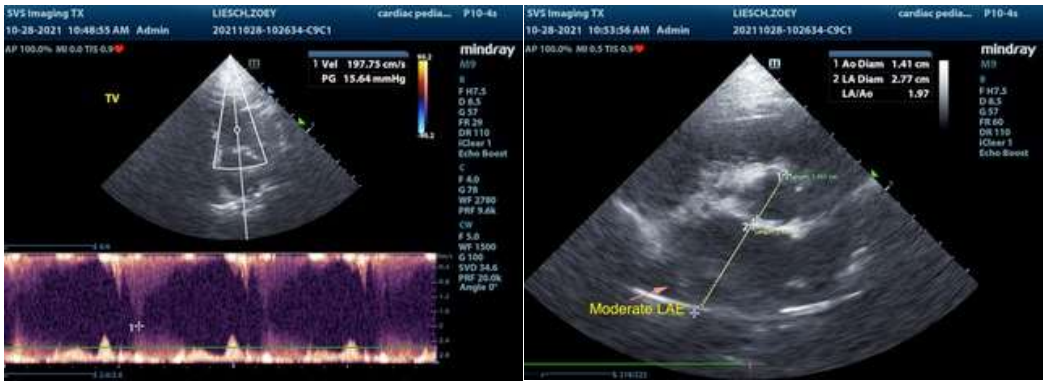
Primary Findings

- Eccentric to centralized mitral valve insufficiency
- Moderate left atrium enlargement with increased left ventricle volume
- Tricuspid valve insufficiency - estimated pulmonary pressure gradient (16-20 mmHg), not overtly consistent with clinical pulmonary hypertension

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cardiac presentation and cause of the murmur is most suggestive of chronic degenerative valvular changes with secondary eccentric to centralized mitral valve insufficiency. Potential for DCM-like presentation is possible, although thought less likely. Regardless of classification, the moderate left atrium enlargement and increased left ventricle volume indicate that the risk of current and future complication is elevated. Full dietary history, as well as correlation with CBC/Chemistry Panel and T4 levels, is recommended if not done or if clinically indicated.

Given the cardiac presentation, Pimobendan at 0.3 mg/kg PO BID is recommended including correlation with three view chest radiographs to assess for evidence of pulmonary edema or lower airway disease. Potentially, the mitral valve insufficiency velocity may be underestimated. Baseline monitoring of resting respiration rate is suggested. Potentially, a weak diuretic such as Spironolactone may be considered in addition to Pimobendan if continued evidence of abnormal breathing. However, the abnormal breathing may be multifactorial. Recheck echocardiogram is suggested in 6 months, sooner if clincial signs suggestive of progressive heart disease are noted.



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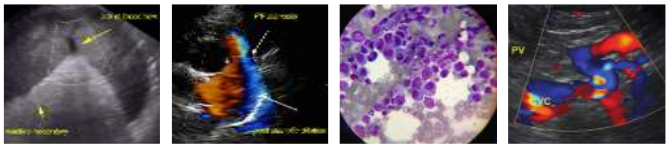

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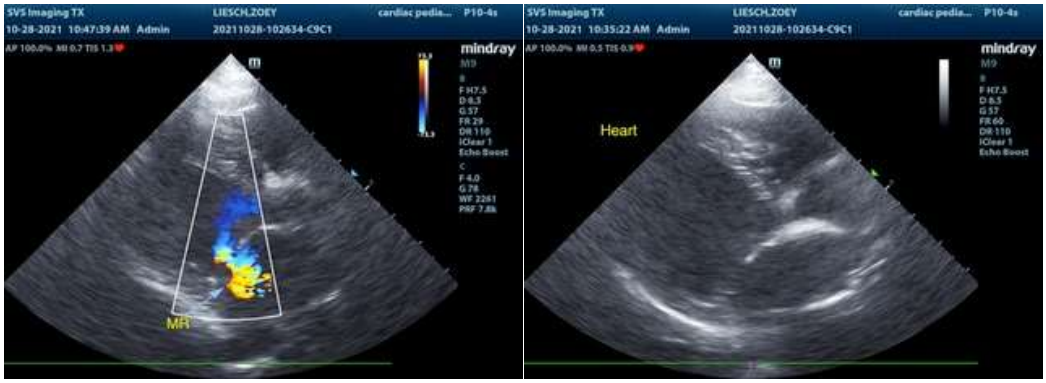

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com