



PATIENT

Feather Whinery

SPECIES

Canine

BREED

Pomeranian X

SEX

Spayed Female

AGE

13 Years

WEIGHT

11.8 Pounds

PRESENTING CLINICAL SIGNS

Coughing, no evidence of exercise intolerance. Long term murmur 4/6. O reported that pt is now having issues breathing during sleep.

Abnormal PE/Chem/CBC/UA Results: Systolic murmur 4/6.

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 | 5.4 | 2.8 | 1.7 | 1.7 | 42.7 | 77.1 | 0.21 |
| 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 | 89 | 1.4 | 0.82 | | 3.2 | 2.79 | |

INTERPRETED BY

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

IMAGING PERFORMED BY

Rachel Runnells, RVT

HOSPITAL NAME

SVS Imaging KC

REFERRING VET

Dr. Susan Mervin

INVOICE

39989

DATE

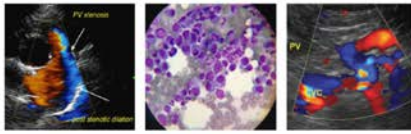
8/1/22

Cardiac Presentation

The echocardiogram for this patient presented mildly excessive **left atrial size** expressed both in the LA/AO and LA max measurements. Subtle deviation of the intraatrial septum towards the right atrium, suggestive of mild increased left atrial pressure. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis without evidence of valvular prolapse or tendineae rupture. Doppler indicated measurable moderate eccentric insufficiency. The **left ventricle** presented normal thicknesses with linear contour with minor subjective increased left ventricular 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 thickening with mild TR present 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). Trace pulmonic insufficiency present on doppler. 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.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B2)



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- TV insufficiency – estimated pulmonary pressure gradient approximately 32 mmHg max, suggestive of mild increased pulmonary pressure, yet not overtly consistent with clinical pulmonary hypertension.

SPECIES

Canine

- Trace pulmonic insufficiency

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

BREED

Pomeranian X

The cause of the murmur is consistent with chronic degenerative valvular changes with secondary primary mitral valve and mild tricuspid valve insufficiency. The mild left atrial enlargement indicates that the current and future risk for complication is mildly elevated, yet overall the heart appears to be compensated. Prognosis at this stage, however, is highly variable.

SEX

Spayed Female

The coughing in this patient is suspected to be multifactorial in origin. 3-view chest radiographs recommended if not yet done to assess for evidence of pulmonary edema or radiographic evidence of upper/lower airway disease. Pimobendan at 0.3 mg/kg PO BID recommended without overt evidence for additional cardiac medications unless radiographic evidence of pulmonary edema is present. As needed respiratory support is suggested.

AGE

13 Years

Close monitoring for evidence of progressive clinical signs, which may suggest emerging or progressive pulmonary hypertension suggested, given the breed. Recheck echocardiogram recommended in 4-6 months, sooner if persistent/progressive clinical signs, which may indicate worsening left-sided heart disease or clinical pulmonary hypertension.

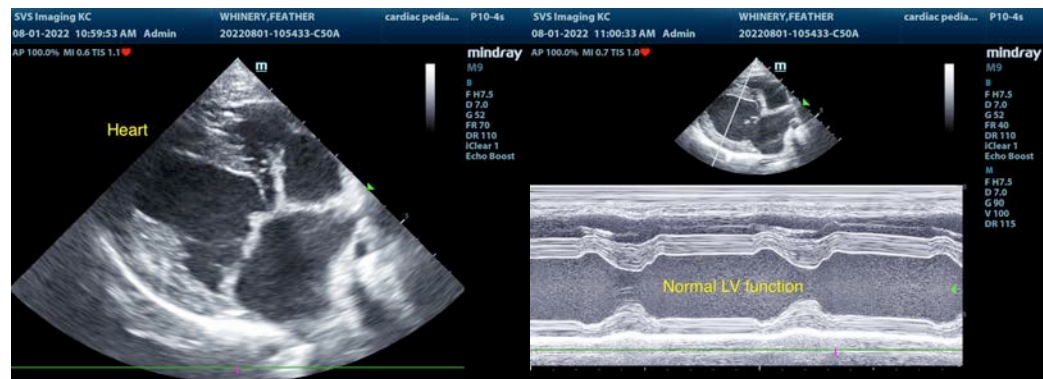
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REFERRING VET

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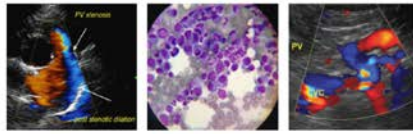
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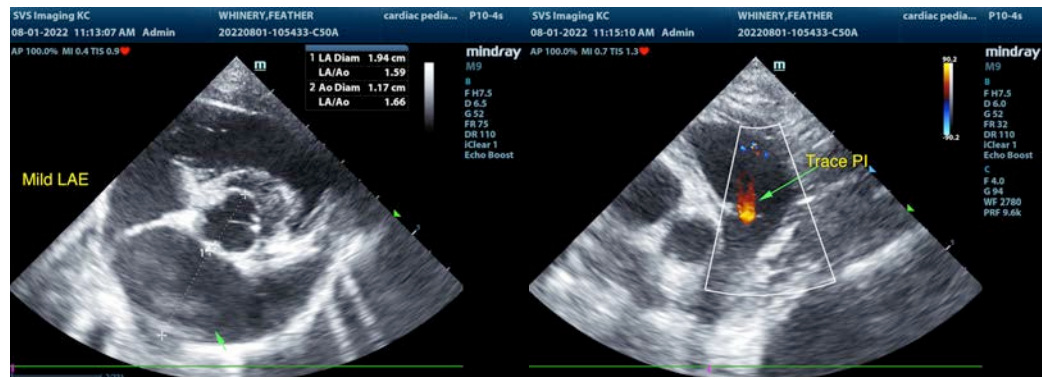
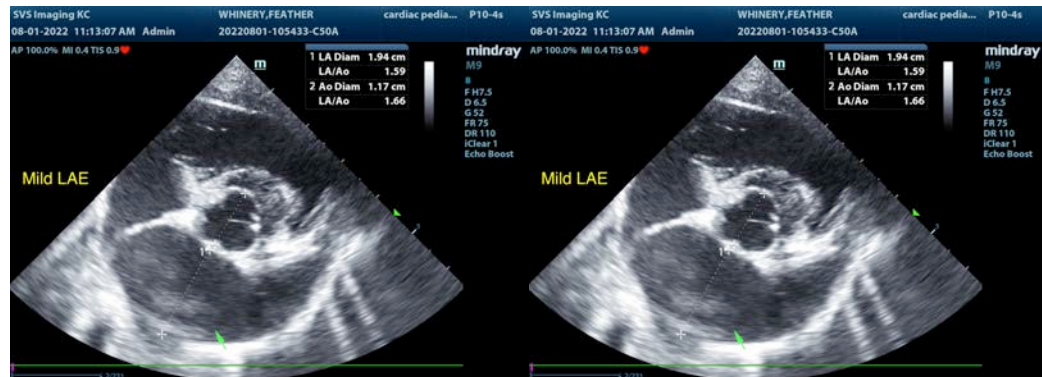
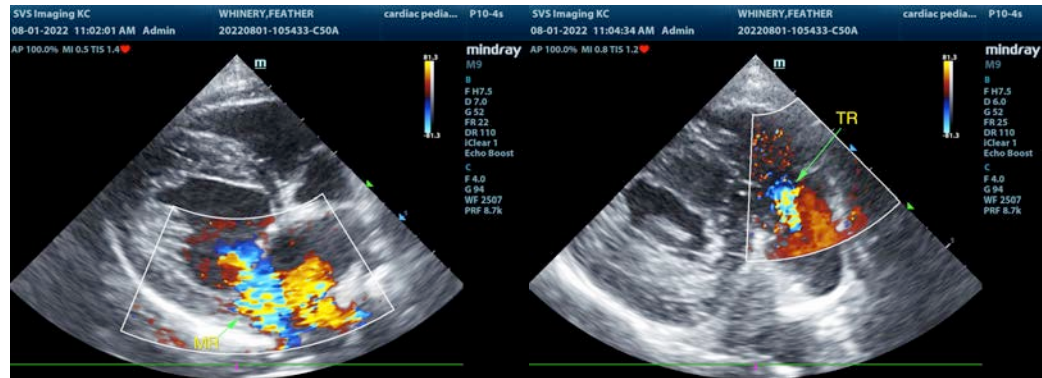
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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