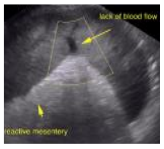
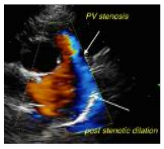
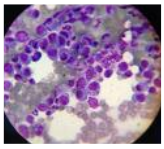
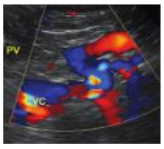
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT

Geno Brewer

SPECIES

Canine

BREED

Poodle / mix

SEX

MN

AGE

11 years

WEIGHT

13.8 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Kim Liedberg

HOSPITAL NAME

SVS Imaging WI

REFERRING VET

Dr Banceu, West Allis

INVOICE

17016

DATE

8/23/22

PRESENTING CLINICAL SIGNS

Chronic coughing and sneezing. 4-5/6 left side systolic heart murmur was noted on exam. On furosemide 12.5mg, vetmedin 2.5mg 1 cap SID. Medications do not seem to help. Heart appears normal in size on radiographs. Thoracic radiographs reveal increased bronchial patterns. Thoracic ultrasound to check lung field along with echocardiogram.

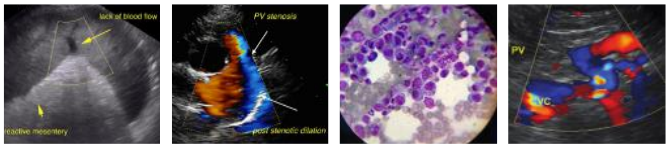
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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	5.0	1.8	1.35	1.2	51.1	83.9	0.25
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	120	--	--	--	3.4	2.9	--

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 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 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). 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.

Other



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Sonographic assessment of the left and right lung fields and thorax revealed normal appearing aerated lung, exhibiting normal curvilinear pleural interface. No evidence of peripheral or visualized intrapulmonary lesions. No evidence of pleural effusion.

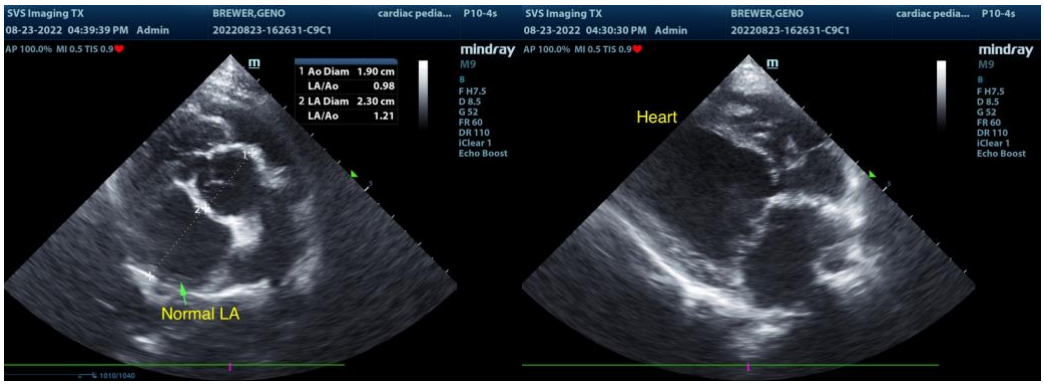
ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM Stage B-1)
- Mild TR- no evidence of clinical pulmonary hypertension, based on estimated pulmonary pressure gradient (<20 mm/Hg)
- Sonographically unremarkable left and right lung fields/thorax

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is secondary to chronic degenerative valvular changes with primary eccentric mitral valve and mild tricuspid valve insufficiency. The lack of significant left atrium enlargement indicates that the risk of current and future complication owing to mitral valve insufficiency is relatively low. Potentially, current cardiac medications may be obscuring some degree of chamber enlargement, yet overall, the heart appears to be compensated without additional clinical issues, such as LV systolic dysfunction or evidence of clinical pulmonary hypertension. The lack of left atrium enlargement is not consistent with decompensation and secondary pulmonary edema. Given this presentation, the chronic coughing in this patient is most likely considered to be noncardiogenic in origin with primary lower airway disease, given the reported increased bronchial patterns on the radiographs, considered probable.

Continuation of Vetmedin (at current dose) would be reasonable, as this medication may help prolong cardiac changes associated with mitral valve insufficiency. Weening of diuretic therapy with assessment of clinical response is recommended. Although no sonographic evidence of pleural or peripheral pulmonary disease, aerated lung can prohibit visualization of the inner lung and primary lung disease cannot be excluded. Further assessment would include lower airway sampling for potential definitive diagnosis. Empirically, as needed respiratory support and continued monitoring of clinical signs and three view chest radiographs would be reasonable.



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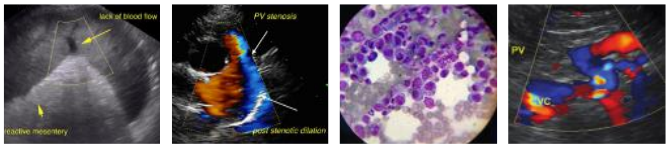

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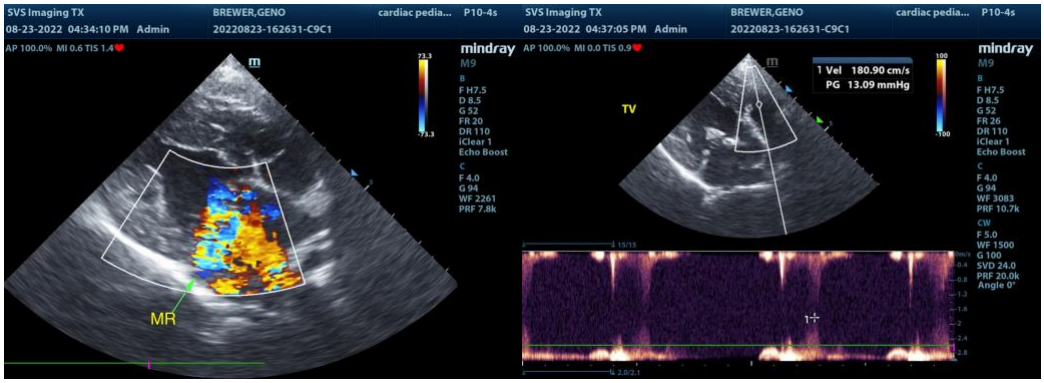

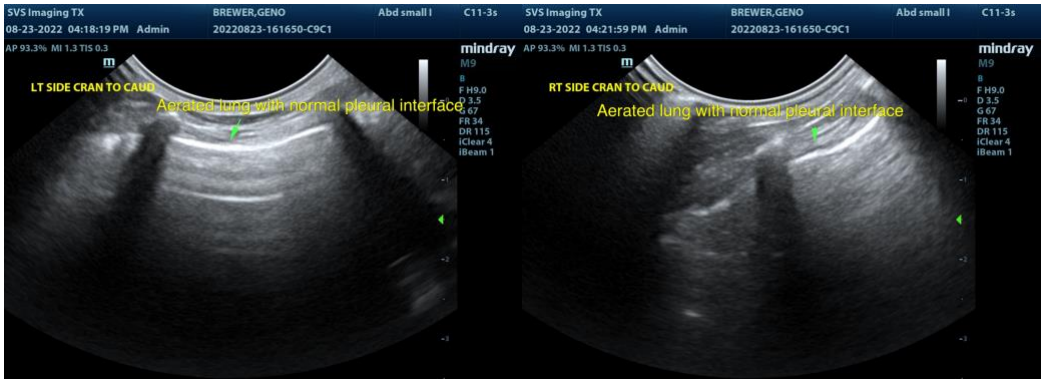

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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