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Clinical Sonography & Telecytology
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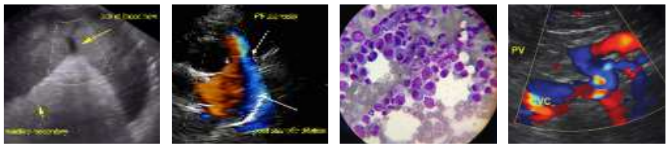

SonoPath.com
1-800-838-4268 info@sonopath.com

**PATIENT**

Buddha Brown

**SPECIES**

Canine

**BREED**

English Bulldog

**SEX**

MN

**AGE**

10 years

**WEIGHT**

53.6 lbs.

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Shari Reffi, CVT

**HOSPITAL NAME**

ACC Flanders

**REFERRING VET**

Dr. Hallihan

**INVOICE**

13260

**DATE**

2/8/22

## PRESENTING CLINICAL SIGNS

Grade III/VI R side murmur. Current meds: Lasix 20mg bid Vetmedin
Abnormal PE/Chem/CBC/UA Results: Alt sl elevated. mild degenerative anemia.

## 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 | 5.0 | 2.5 | 2.6 | 2.5 | 37.1 | 66.4 | 0.4 |
| **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 | 173 | 1.3 | 1.2 | | 6.5 | 5.5 | |

### *Cardiac Presentation*

The echocardiogram in this patient demonstrated moderate to severely enlarged **left atrial** size based on 3 different LA measurement methods. Deviation of the interatrial septum towards the right atrium consistent with elevated left atrial pressure was present. The cranial and caudal **mitral** valve leaflets presented mild vegetative thickening suggestive of mild endocardiosis. Doppler indicated measurable moderate primarily eccentric 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 yet mildly subnormal as 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 with potential mild concurrent thickening. Mild to moderate TR was present on color doppler assessment. The **right ventricle** exhibited mild increased size compared to the left ventricle with normal myocardial echogenicity, thickness and contractility. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Minor **pericardial** free fluid was present without evidence of cardiac tamponade. No evidence of concurrent free pleural 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. Brief sonographic assessment of the liver revealed potential for mildly prominent to congested cranial abdominal caudal vena cava and adjacent hepatic vein, yet no evidence of significant congestive hepatopathy or ascites.

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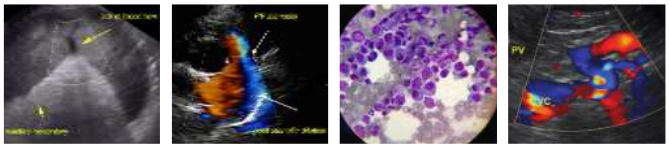

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## ULTRASONOGRAPHIC FINDINGS

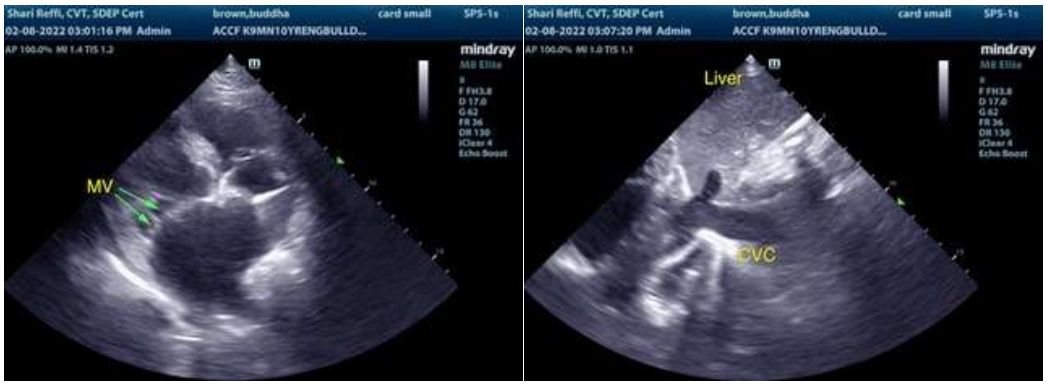
- Moderate to severe LA / LV enlargement with minor subjective decreased LV systolic function
- TV insufficiency - estimated pulmonary pressure gradient (approximately 25 mmHg) suggestive of mild elevated pulmonary pressure yet not overtly consistent with clinical pulmonary hypertension
- Minor pericardial free fluid

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The echocardiogram is consistent with significant cardiomyopathy with adequate yet mildly decreased subjective LV systolic function. Significant left-sided volume overload was present with the murmur likely secondary to MR and TR. Potential for mildly elevated heart rate is possible. Baseline ECG is recommended to assess risk for atrial fibrillation etc.

The heart may indicate advanced chronic degenerative valvular changes and secondary eccentric mitral valve insufficiency without overt evidence of DCM criteria. However, emerging DCM or DCM-like cardiomyopathy, which may be primary in nature or possibly secondary to endocrine disease such as hypothyroidism, myocarditis, nutritional cardiomyopathy, or less likely infiltrative disease cannot be excluded.

Continued Pimobendan at current dose with Lasix / Spironolactone combination 1.0-2.0 mg/kg PO BID Is recommended. Assessment of blood pressure is suggested. ACE Inhibitor medication may be considered if BP >130, (not advised if BP <130). Recheck echocardiogram Is ideal In 3-4 months, sooner If clinical signs suggestive of either left or right-sided heart disease arise.



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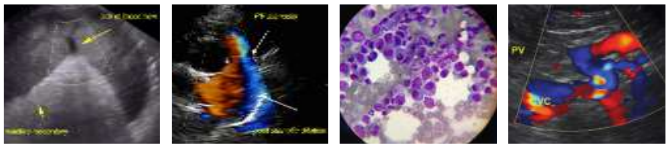

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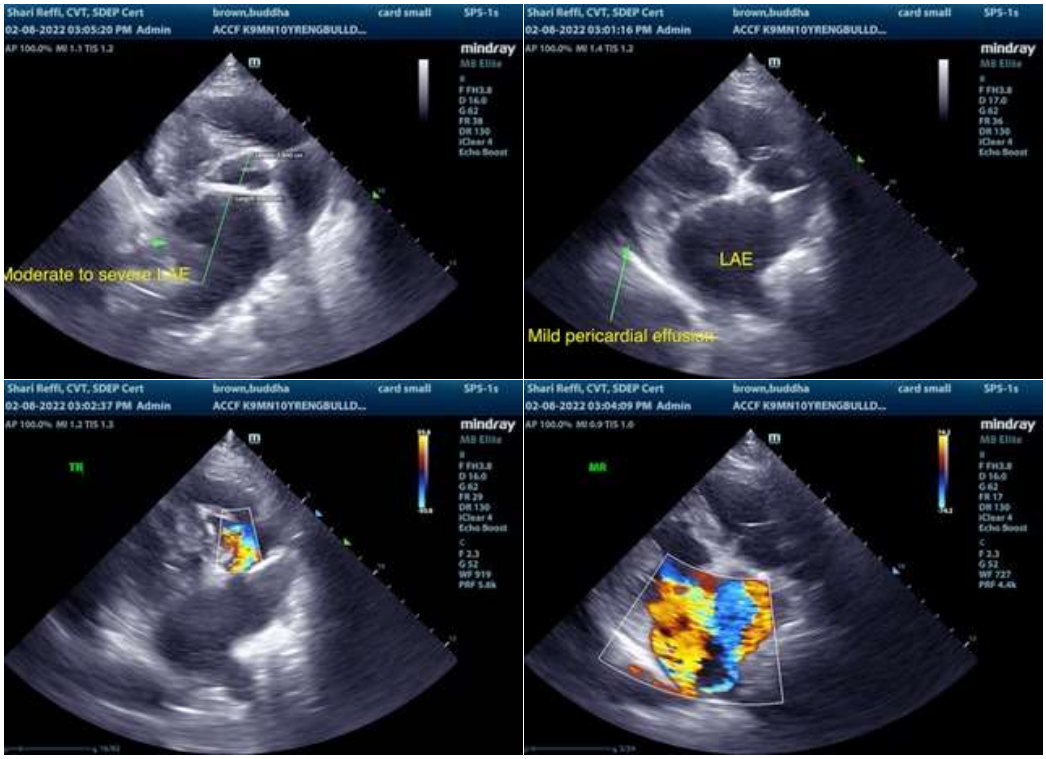


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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**