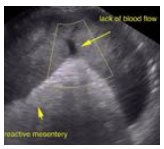

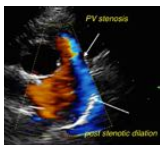

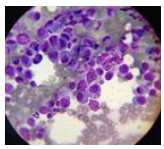
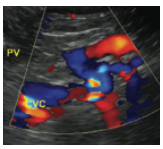


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1-800-838-4268 info@sonopath.com

**PATIENT**

Tanenr Taylor

**SPECIES**

Canine

**BREED**

Cocker Spaniel

**SEX**

Neutered male

**AGE**

14 years

**WEIGHT**

25.6 lbs

**INTERPRETED BY**

Eric Lindquist, DMV DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Dr. McFeely

**HOSPITAL NAME**

Straley VA

**REFERRING VET**

Dr. McFeely

**INVOICE**

39518

**DATE**

9/20/22

## PRESENTING CLINICAL SIGNS

History: Tanner presented almost 4 weeks ago for cough of one month duration and exercise intolerance. The intensity of his cardiac murmur had been gradually increasing, as exam histories show a grade II murmur in 2020 and grade III in 2021/ 2022. During the recent exam for cough concerns, chest rads revealed VHS of 12, cardiomegaly with loss of cardiac silhouette waist, bronchointerstitial pattern especially in perihilar area and suspected left atrial enlargement. He was started on 20mg furosemide orally BID and 2.5mg pimobendan PO BID at that time over concern for emerging stage C MMVD. At his recheck 2 weeks later, his clinical signs of cough had improved. Today, Tanner was given 2.3 mg butorphanol IV to lightly sedate, and then needed additional 34 mg total dose of alfaxalone IV to complete the cardiac u/s exam to prevent excessive movement. His BP was normal, ranging from 122/63 (83) to 138/61 (92) mmHg systolic/ diastolic (MAP). A repeated right lateral radiograph showed an improved perihilar pulmonary parenchyma appearance.
Abnormal PE/Chem/CBC/UA Results: Mildly increased BUN of 28, normal Creat, rest normal

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated enlarged **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 insufficiency. The **left ventricle** presented normal 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. Tachyarrhythmia may be an issue in this patient. The hepatic veins were not dilated.

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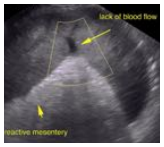

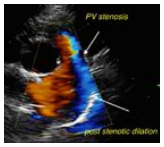

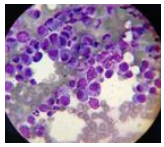
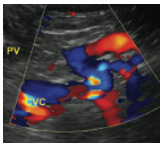


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| CANINE CARDIAC PARAMETERS | MR VMAX (m/s) | TR VMAX (m/s) | LA/AO (Boon method) | LA/AO (Heart Base; Swe) | FS (%) | EF (%) | EPSS (cm) |
|---|---|---|---|---|---|---|---|
| NORMAL PARAMETER | 4.5-5.5 | <2.7 | 1.3 | <1.6 | 28-40 | 40-100 | <0.6 |
| PATIENT | NM | | 1.8 | 2.1 | 45 | | 0.1 |
| **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 | 140 | NM | 0.7 | 25.6 lbs | 4.6 | 4.8 | |

## ULTRASONOGRAPHIC FINDINGS

Advanced Stage B2 valvular disease, potential emerging C1.

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

I recommend assessment of radiographs for mainstem bronchus impingement by the left atrial enlargement. The changes are most consistent with chronic left atrial enlargement. Tricuspid valve may have some insufficiency, yet was not evident on color flow and not clinical as the hepatic veins were not dilated.

Given that this presentation is post treatment of Furosemide and Pimobendan it is likely that this patient was originally at C1 valvular disease. I recommend adding ace inhibitor at 0.5 mg/kg s.i.d. progressing to b.i.d. and watching the azotemia. Abdominal sonogram and assessment of the renal state would be warranted as well as full urinalysis to assess renal function and any concurrent comorbidities regarding UTI or inflammatory sediment. Spironolactone can also be considered at 1-2 mg/kg b.i.d. again assessing any evidence of azotemia.

The heart has some volume overload and is working to compensate for the valvular insufficiency. Target respiratory rate is < 20 resp/minute after therapy. After initiating therapy, I recommend recheck on the clinical exam, BUN, Creatinine, USG, Chest radiographs & Blood pressure in 5-7 days. Recheck echo in 1 month. Earlier if clinical decompensation is occurring. I do not recommend anesthesia at this time until stabilization has occurred on the recommended medications. Repeat preanesthetic echo is ideal if anesthesia is eventually necessary

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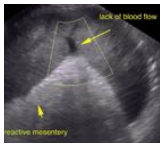
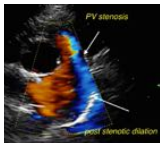
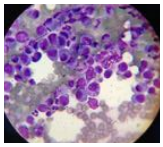
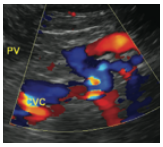

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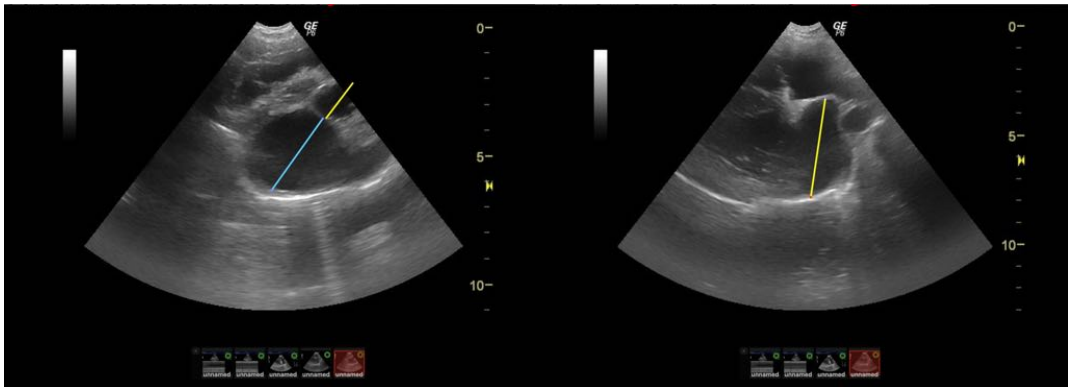

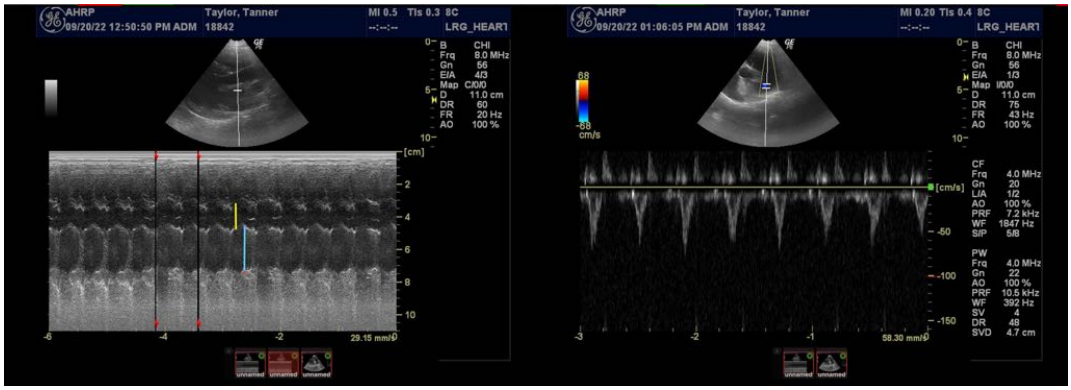

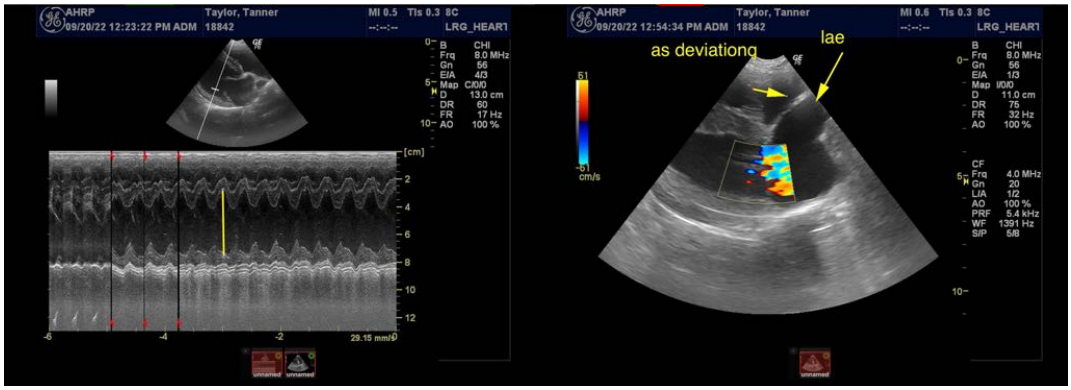


**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

**Eric Lindquist**, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com