

**PATIENT PRESENTING CLINICAL SIGNS**

Daisy Meszaros

Heart murmur noted grade 1/6. Fairly new to clinic. Was started on Clinacin as needs dental. Upon presentation for ultrasound, noted VERY distended abdomen as well.

**SPECIES**

Abnormal PE/Chem/CBC/UA Results: n/a

Canine

**BREED**

Multipoo

**SEX**

FS

**AGE**

10 years

**WEIGHT**

20 lbs.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

| CANINE                    | MR                   | TR                   | LA/AO               | LA/AO             | FS                              | EF                                    | EPSS                                  |
|---------------------------|----------------------|----------------------|---------------------|-------------------|---------------------------------|---------------------------------------|---------------------------------------|
| <b>CARDIAC PARAMETERS</b> | <b>VMAX</b><br>(m/s) | <b>VMAX</b><br>(m/s) | (Boon method)       | (Heart Base; Swe) | (%)                             | (%)                                   | (cm)                                  |
| <b>NORMAL PARAMETER</b>   | 4.5-5.5              | <2.7                 | 1.3                 | <1.3              | 28-40                           | 40-100                                | <0.6                                  |
| <b>PATIENT</b>            | 5.0                  | 3.3                  |                     | 2.38              | 44.1                            | 78.8                                  | 0.18                                  |
| CANINE                    | HR                   | AV                   | PV                  | BODY WEIGHT       | LA                              | LVIDd                                 | LVIDs                                 |
| <b>CARDIAC PARAMETERS</b> | (BPM)                | <b>VMAX</b><br>(m/s) | <b>MAX</b><br>(m/s) | (kg)              | 2D short axis Base view<br>(cm) | Avg; 2D and m-mode short axis<br>(cm) | Avg; 2D and m-mode short axis<br>(cm) |
| <b>NORMAL PARAMETER</b>   | 50-100               | 0.7-1.7              | 0.7-1.6             |                   |                                 |                                       |                                       |
| <b>PATIENT</b>            | 162                  | 1.3                  | 1.0                 |                   | 4.0                             | 3.4                                   |                                       |

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP

**IMAGING PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

The Maples AH

**REFERRING VET**

Dr. Kazienko

**INVOICE**

13843

**DATE**

5/11/22

**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, suggestive of increased left atrial pressure, was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis without evidence of valvular prolapse. Doppler indicated measurable subjective mild eccentric insufficiency. The **left ventricle** presented thicknesses with maintained 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 mild subjective increased size, normal overall structure and anechoic content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated concurrent mild vegetative thickening with mild prolapse of the septal leaflet. Mild TR was present on doppler. The **right ventricle** exhibited mild increased size compared to the LV with normal myocardial echogenicity and subjective thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Subjective mild volume pleural free fluid along with scant pericardial free fluid was noted. No overt or detectable



**PATIENT**

Daisy Meszaros

evidence of infiltrative disease was visible, yet cannot be definitively excluded. No evidence of cardiac, pericardial, or cranial mediastinal masses was noted.

**SPECIES**

Canine

A brief sonographic assessment of the cranial abdomen revealed concurrent ascites. No evidence of arrhythmia was noted.

**BREED**

Multipoo

**ULTRASONOGRAPHIC FINDINGS**

- Enlarged LA / LV, normal LV systolic function
- Subjective mild RA / RV enlargement
- Mild eccentric MR
- Mild TR - estimated pulmonary pressure gradient (Approximately 43 mm Hg) consistent with mild increased pulmonary pressure / mild pulmonary hypertension, yet not overtly consistent with significant pulmonary hypertension
- Pleural / peritoneal effusion with scant pericardial effusion

**SEX**

FS

**AGE**

10 years

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**WEIGHT**

20 lbs.

The cause of the murmur is likely secondary to chronic degenerative valvular changes with secondary mitral and tricuspid valve insufficiency. The LA/LV enlargement indicates that the risk of current and future complications secondary to valvular insufficiency is increased, yet LV systolic function appears to be adequate and DCM criteria was not met.

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP

Given this presentation and assuming normal albumin levels, tri-cavitary cardiogenic effusion may be considered a primary differential diagnosis. However, the possibility of concurrent underlying disease process and noncardiogenic effusion as a contributing factor cannot be definitively excluded.

**IMAGING  
PERFORMED BY**

Crystal Hill

Pimobendan 0.3 mg/kg PO BID, diuretic protocol i.e., Lasix / Spironolactone combination 1.0-2.0 mg/kg PO BID is warranted. Effusion analysis is likely ideal to correlate with effusion consistent with cardiac disease. Monitoring of renal parameters, BP, and Ideally ECG assessment would be ideal. Anesthetic risk is considered significantly elevated and avoidance of anesthesia is recommended. Recheck echocardiogram pending response to therapy and monitoring of effusion is recommended. A very guarded long-term prognosis is warranted.

**HOSPITAL NAME**

The Maples AH

**REFERRING VET**

Dr. Kazienko

**INVOICE**

13843

**DATE**

5/11/22



**PATIENT**

Daisy Meszaros

**SPECIES**

Canine

**BREED**

Multipoo

**SEX**

FS

**AGE**

10 years

**WEIGHT**

20 lbs.

**INTERPRETED BY**

R. McKenzie Daniel,  
DVM, DABVP

**IMAGING  
PERFORMED BY**

Crystal Hill

**HOSPITAL NAME**

The Maples AH

**REFERRING VET**

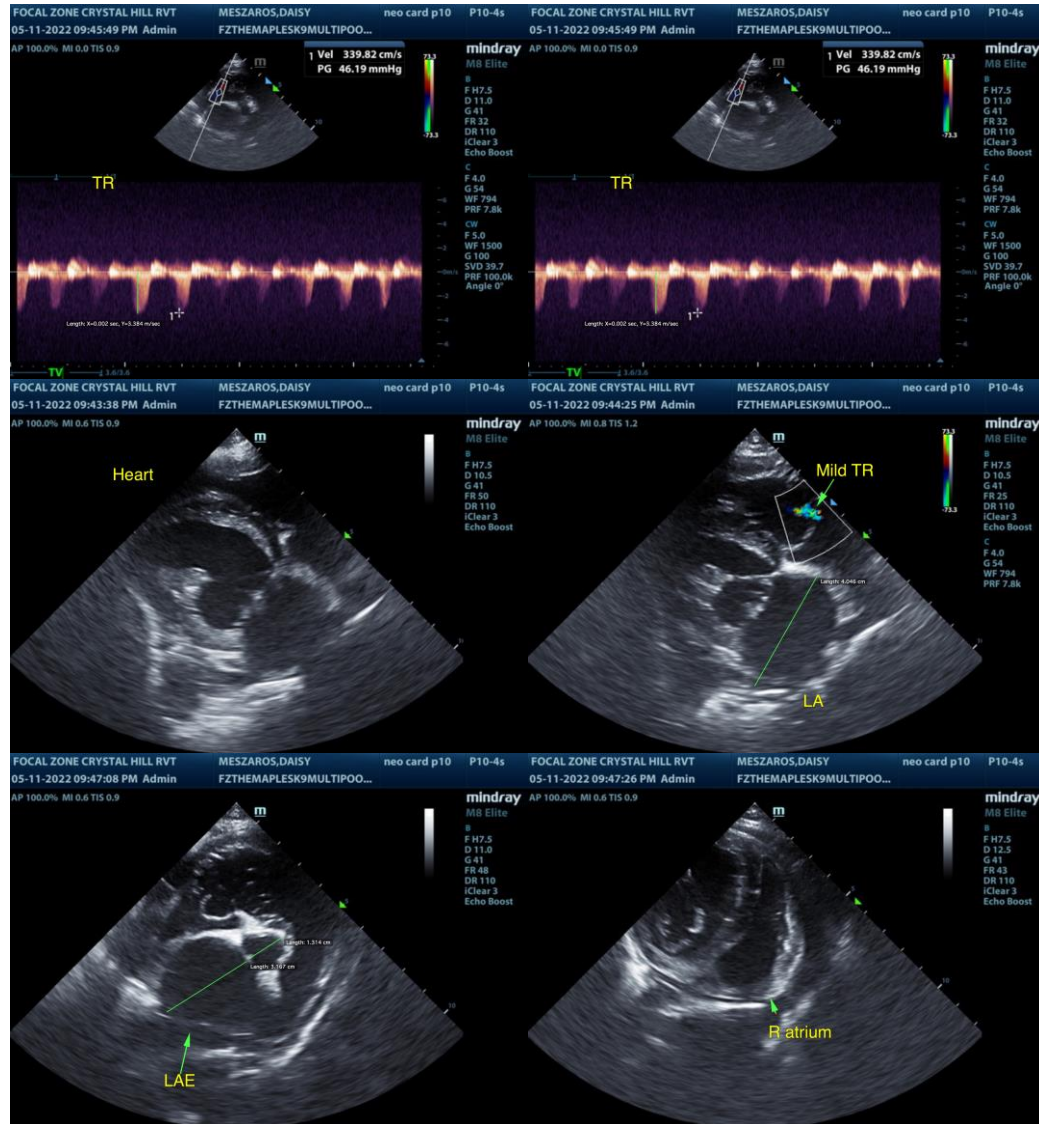
Dr. Kazienko

**INVOICE**

13843

**DATE**

5/11/22



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