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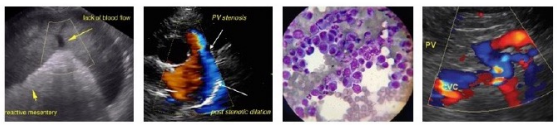

THE FOCAL ZONE
IMAGING PERFORMED BY
289-808-2608 info@thefocalzone.com

**PATIENT**

Zoey Lanto

**SPECIES**

Canine

**BREED**

Chihuahua

**SEX**

Spayed Female

**AGE**

9 years

**WEIGHT**

9.1 kg

**INTERPRETED BY**

R. McKenzie Daniel, DVM, DABVP

**IMAGING PERFORMED BY**

Kelly Reshny, RVT

**HOSPITAL NAME**

Grand River VH

**REFERRING VET**

Dr. Chu

**INVOICE**

13009

**DATE**

9/13/21

## PRESENTING CLINICAL SIGNS

–Coughing & Sneezing ~ 2 weeks, Non progressive, intermittent episodes Thick serous discharge noted when sneezing Moderate increase in bronchovesicular sounds bilaterally (auscultation sounds diffuse but more pronounced around caudodorsal aspect Grade 3/6 left apical systolic murmur Stable upon PE currently on: TD codeine for pain & cough management

Abnormal PE/Chem/CBC/UA Results: Please see attached rads.

Radiographs: Submitted 3 view chest radiographs revealed no evidence of caudodorsal pulmonary edema with mild bronchointerstitial pattern and soft tissue opacity noted in the pericardial to cranial thorax or potential mediastinum.

## 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 | -- | -- | NM | 1.23 | 40 | 74 | 0.18 |
| **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 | 130 | 1.8 | 1.4 | -- | 2.8 | 2.8 | -- |

### *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 adequate linear morphology. Color doppler assessment revealed minor tricuspid valve insufficiency. 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 cardiac disease was visible. The immediate **pericardial regions** were free of overt masses or overt pathology in the visible window.

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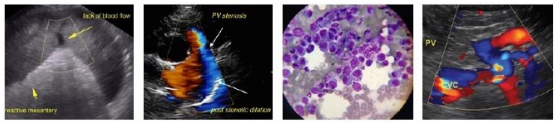

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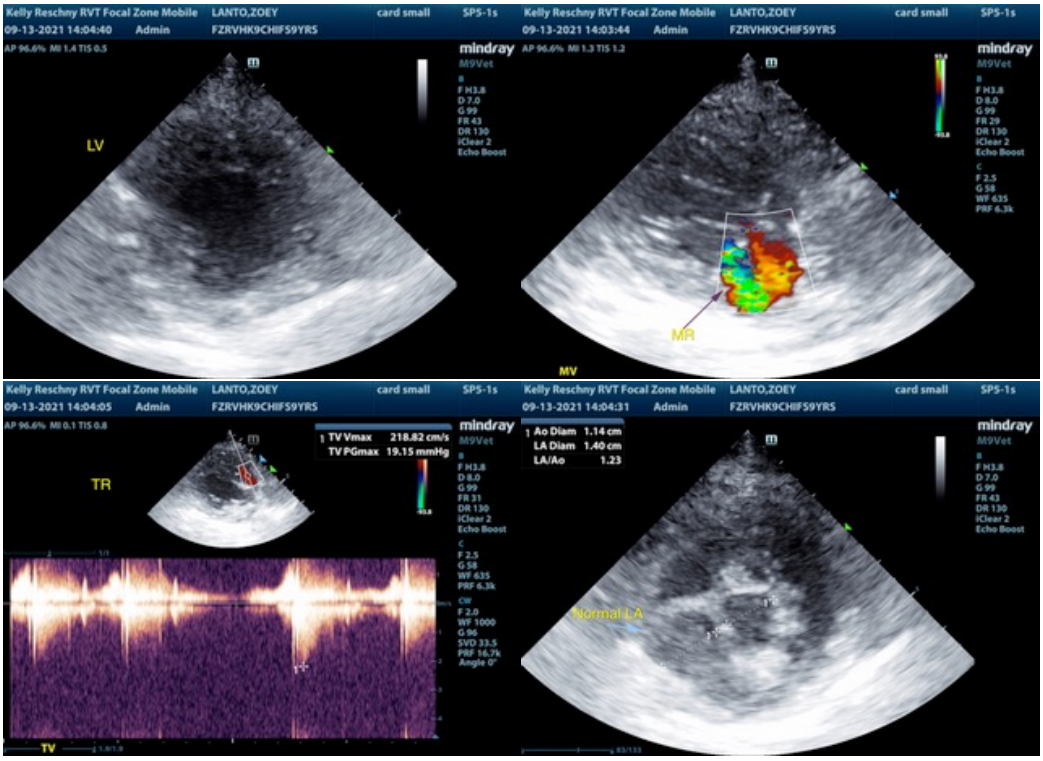
## ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- Mild tricuspid valve insufficiency – estimated pulmonary pressure grading (<20) non consistent with clinical pulmonary hypertension

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrium enlargement indicates that the risk of future complication is low at this time although prognosis is highly variable. No other clinical issues such as systolic dysfunction or evidence of clinical pulmonary hypertension were noted. Given these findings, the coughing and sneezing in this patient is most likely non-cardiogenic in origin with primary concern for unspecified lower airway disease. An obvious cranial thoracic mediastinal or pericardial mass was not definitively evident in this study owing to regional pericardial lung artifact although cannot be definitively excluded.

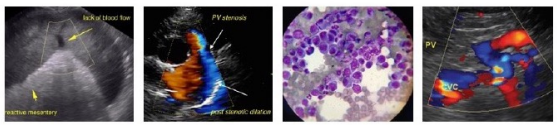
No indication for cardiac medications with continued conservative monitoring of the heart murmur or for evidence of clinical signs consistent with heart disease suggested. Radiology consult regarding the 3 view chest radiographs may be considered. Continued respiratory therapy with potential lower airway sampling or thoracic CT may be indicated.




**The information and recommendations provided are based on the images presented by the referring veterinarian. 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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