



PATIENT

Cesar Kallio

SPECIES

Canine

BREED

Chihuahua Mix

SEX

Neutered Male

AGE

11 years

WEIGHT

16.8 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Meridith Swart

HOSPITAL NAME

Swart Veterinary
Imaging

REFERRING VET

Dr. Meridith Swart

INVOICE

13239

DATE

2/2/22

PRESENTING CLINICAL SIGNS

History of murmur. Patient has recently begun coughing. Patient was started on 5 mg pimobendan quad tabs at 1/4 tab bid.

Abnormal PE/Chem/CBC/UA Results: none reported

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 | | | 1.97 | 2.3 | 49.6 | 84 | 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 | BELOW | BELOW | BELOW | BELOW |
| PATIENT | NM | 1.8 | 0.8 | | 4.1 | 3.44 | |

Cardiac Presentation

The echocardiogram in this patient demonstrated moderately 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, and mild horizontal component to left atrial enlargement, was present. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis with mild prolapse of the septal leaflet. Doppler indicated measurable 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 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.



PATIENT

Cesar Kallio

SPECIES

Canine

BREED

Chihuahua Mix

SEX

Neutered Male

AGE

11 years

WEIGHT

16.8 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Meredith Swart

HOSPITAL NAME

Swart Veterinary
Imaging

REFERRING VET

Dr. Meredith Swart

INVOICE

13239

DATE

2/2/22

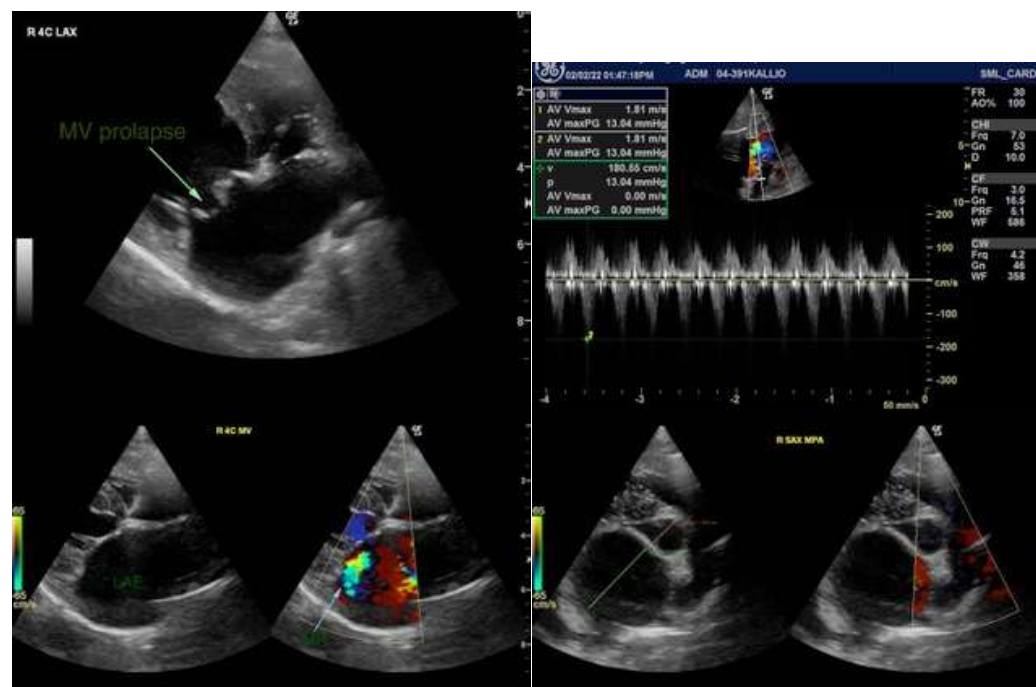
ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B2-C)
- Mild mitral valve prolapse

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is secondary to chronic degenerative valvular changes with septal mitral valve leaflet prolapse and secondary eccentric mitral valve insufficiency. The moderate LA enlargement, as well as increased LV volume, indicate that the current and future risk going forward secondary to mitral valve Insufficiency is elevated with potential for current signs of congestion. Correlation with three view chest radiographs is recommended if not done.

No other clinical issues such as systolic dysfunction or evidence of clinical pulmonary hypertension were noted. If no evidence of pulmonary edema, the coughing in this patient may be multifactorial in origin potentially owing to emerging left heart decompensation, irritation or compression of the mainstem bronchi owing to LA enlargement, with potential for primary lower airway component. Pimobendan 0.3 mg/kg PO BID with the lowest effective dose of diuretic i.e., Lasix 1.0-2.0 mg/kg PO BID if evidence of pulmonary edema vs. weak diuretic Spironolactone 1.0-2.0 mg/kg PO BID if no evidence of pulmonary edema. Hydrocodone at the appropriate dose may prove effective. Monitoring or resting respiration rate is recommended. Recheck echocardiogram is suggested in 6 months, sooner if persistent to progressive clinical signs suggestive of left heart disease are noted.





PATIENT

Cesar Kallio

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.

SPECIES

Canine

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.

BREED

Chihuahua Mix

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com

SEX

Neutered Male

AGE

11 years

WEIGHT

16.8 lbs.

INTERPRETED BY

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

**IMAGING
PERFORMED BY**

Dr. Meredith Swart

HOSPITAL NAME

Swart Veterinary
Imaging

REFERRING VET

Dr. Meredith Swart

INVOICE

13239

DATE

2/2/22