



PATIENT

Coco Serafin

SPECIES

Canine

BREED

Minature Pinscher

SEX

MN

AGE

8 years

WEIGHT

13 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Advanced VC

REFERRING VET

Dr. Gad

INVOICE

17174

DATE

6/28/23

PRESENTING CLINICAL SIGNS

-chronic cough. no heart murmur auscultated

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

| CANINE | MR | TR | LA/AO | LA/AO | FS | EF | EPSS |
|---------------------------|----------------------|----------------------|---------------------|-------------------|------------------------------------|---------------------------------------|---------------------------------------|
| CARDIAC PARAMETERS | VMAX (m/s) | VMAX (m/s) | (Boon method) | (Heart Base; Swe) | (%) | (%) | (cm) |
| NORMAL PARAMETER | 4.5-5.5 | <2.7 | 1.3 | <1.3 | 28-40 | 40-100 | <0.6 |
| PATIENT | | 1.2 | 1.2 | 1.2 | 46 | 79 | 0.25 |
| CANINE | HR | AV | PV | BODY WEIGHT | LA | LVIDd | LVIDs |
| CARDIAC PARAMETERS | (BPM) | VMAX (m/s) | MAX (m/s) | (kg) | 2D short axis Base view (cm) | Avg; 2D and m-mode short axis (cm) | Avg; 2D and m-mode short axis (cm) |
| NORMAL PARAMETER | 50-100 | 0.7-1.7 | 0.7-1.6 | | | | |
| PATIENT | 174 | 1.85 | 1.0 | | 2.7 | 2.9 | |

Cardiac Presentation

The **echocardiogram** presented a mild prominent **right heart** without evidence of **right ventricular hypertrophy**. Mild **tricuspid** regurgitation was present on Doppler. Normal **right atrial** size was present. No evidence of neoplasia was noted in the right auricle, or elsewhere in the heart. The **pulmonary artery** exhibited borderline to mild prominent size with normal measured RVOT velocity and with systolic laminar flow on Color Doppler. No overt heartworms were visualized in the main pulmonary artery. The **left heart** demonstrated normal volume with normal thickness and linear contour. Contractility was functionally adequate demonstrated by the FS% measurement. The **mitral valve** was sonographically unremarkable with mild eccentric MR on Doppler. Normal LA dimension was noted. The **left ventricular outflow** demonstrated normal flow patterns and measured velocities through the normal appearing aortic valve. No evidence of pericardial or pleural effusion was noted. The visible **extra-cardiac** tissues were sonographically unremarkable. No evident arrhythmic activity was noted during the exam.

ULTRASONOGRAPHIC FINDINGS

- Normal LA / LV
- Mild eccentric MR - compensated
- Mildly prominent right ventricle - consistent with mild cor pulmonale



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- Mild TR - estimated pulmonary pressure gradient not consistent with overt clinical pulmonary hypertension

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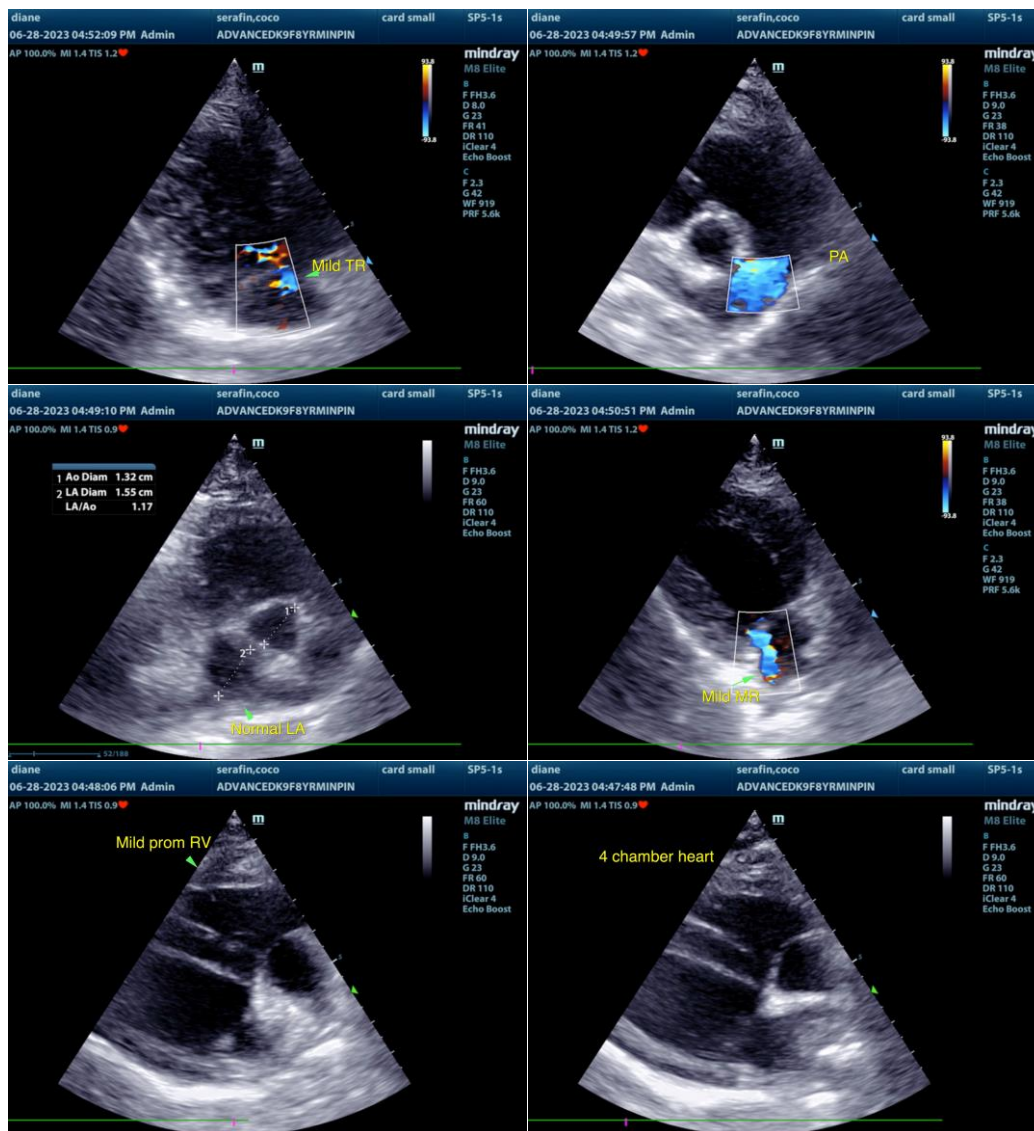
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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the lack of LA / LV enlargement or overt evidence of clinical pulmonary hypertension based on measured tricuspid valve insufficiency velocity, the mildly prominent right heart consistent with mild cor pulmonale, most likely secondary to chronic respiratory disease. The hemodynamic effects of the mild MR appear to be minimal, given the lack of LA enlargement. No overt indication for cardiac medications. As-needed respiratory support +/- antibiotic trial such as Enrofloxacin or Doxycycline is recommended. Lower airway sampling is likely required for a definitive diagnosis. Recheck echocardiogram is recommended if clinical signs consistent with cardiac disease or progressive coughing, syncope, etc., which may indicate emerging pulmonary hypertension.





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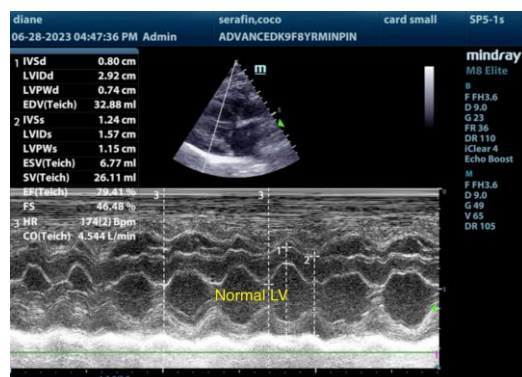
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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