


**PATIENT**

Lilly Snyder

**SPECIES**

Canine

**BREED**

Labrador Retriever

**PRESENTING CLINICAL SIGNS**

Presented on 4/7 for coughing and hospitalized - rapidly progressed to respiratory distress while hospitalized 4/10 pm into 4/11 am. Radiographs significantly changed from 4/10 to 4/11. Now febrile. Nasal canula to be placed. Started on hydrocodone, thirosyn, famotidine and cerenia on 4/7; unasyn and baytril started this morning (4/11). Also on meloxicam, ondansetron, buprenorphine started.

Abnormal PE/Chem/CBC/UA Results: CHEM/CBC on 4/7: WBC 19.24, Neu 15.32, Mono 1.27, Plt 69, MPV 14.8, PCT 0.10, Tbil 1.3, rest CHEM WNL (see attached) T4 0.9 (sl. low) Recheck CBC today shows mono 2.01 and suspected bands, but other normal CBC (See attached) Radiographs attached - ddx at time of first films was megaeso vs choke vs hypothyroid vs. other; now radiographs show significant pulmonary changes consistent with pulmonary disease

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**
**SEX**

FS

**AGE**

2012

**WEIGHT**

82lb

**INTERPRETED BY**

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

| 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                 | <1.3                    | 28-40                           | 40-100                                   | <0.6                                     |
| PATIENT                   |               |               |                     | 1.2                     | 33                              | 62                                       | 0.3                                      |
| 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                   | NM            | NM            | NM                  |                         | 4.5                             | 4.1                                      |  |

**IMAGING PERFORMED BY**

Amanda Crook

**HOSPITAL NAME**

 Riversw Edge Pet  
 Medical Center

**REFERRING VET**

Dr. Gray

**INVOICE**

13448ag

**DATE**

04/11/2023

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal left atrial size based on 3 separate methods of LA evaluation. The cranial and caudal mitral valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. No overt MR on Doppler. 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. Normal measured LVOT velocity. The right atrium and auricle revealed normal size, structure and content. No evidence of masses was noted. Tricuspid valvular assessment demonstrated adequate linear morphology and kinesis. No overt TR on Doppler. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. Pulmonary outflow tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). Normal measured RVOT velocity. No visible pericardial or free pleural fluid was noted. Peripheral pulmonary comet tail lung artefact along with focal to possible multiple areas of consolidated lung exhibiting mild non-homogenous hypoechoic lung parenchyma echogenicity and suspect areas of air entrapment were present in the left thorax.



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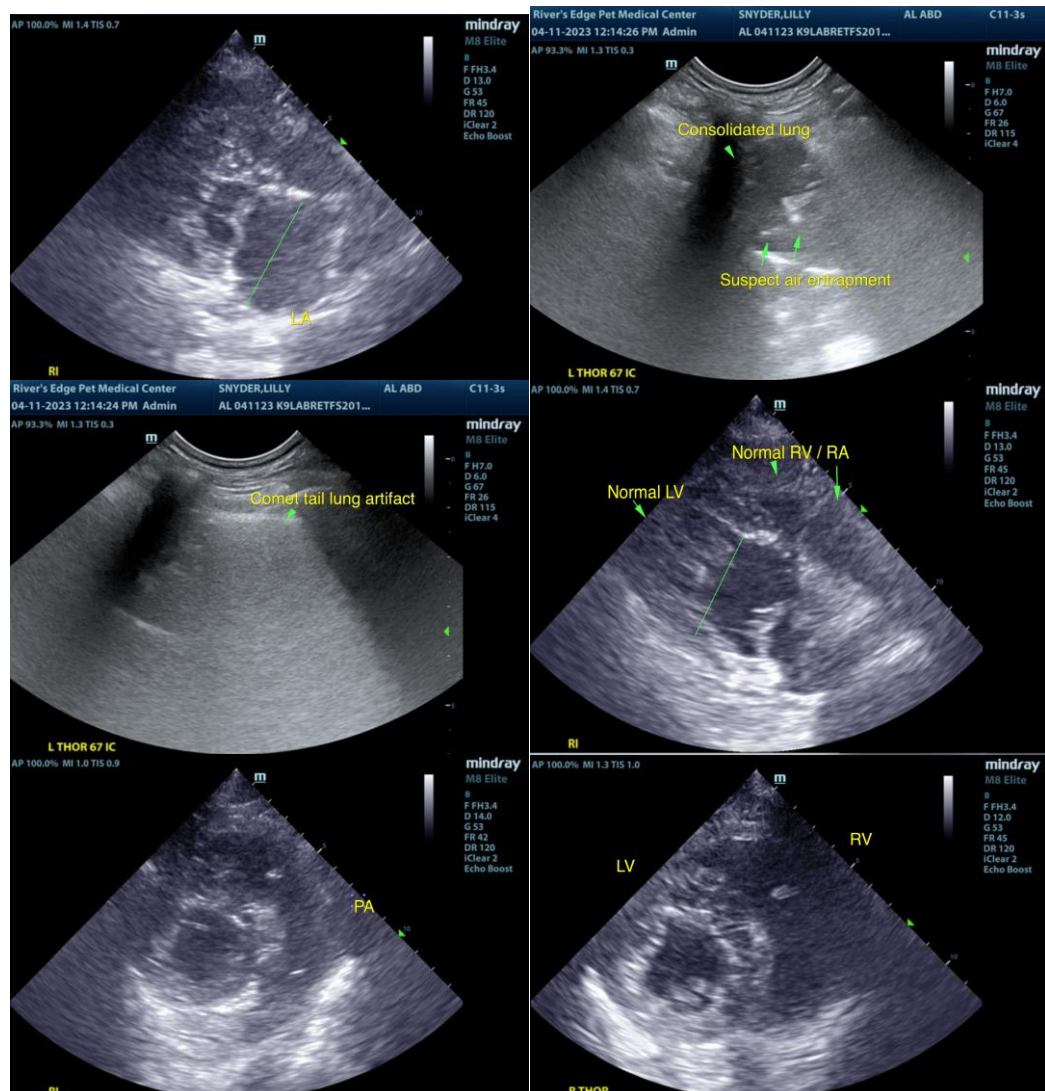
**ULTRASONOGRAPHIC FINDINGS**

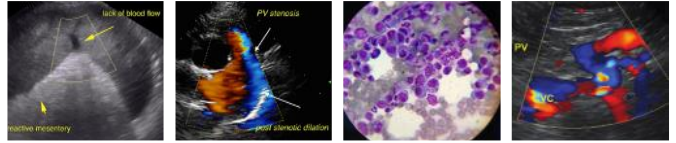
- Normal echocardiogram.
- Peripheral pulmonary comet tail artifact with focal/intermittent areas of peripheral consolidated lung and suspected concurrent air entrapment.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of structural or functional cardiomyopathy was present in this study including no evidence of clinical issues such as clinical pulmonary hypertension given normal right chamber size and normal pulmonary artery size as a cardiac cause of the patient's respiratory abnormalities. Sonographically primary pulmonary disease which may include infectious/inflammatory disease, pneumonitis, acute respiratory distress syndrome, pneumonia or neoplasia are possible. No indication for cardiac medications.

Lower airway sampling which may include ultrasound guided FNA into areas of consolidated lung for further clarification and possible C/S could be considered. Thoracic radiology review may be considered if not done.





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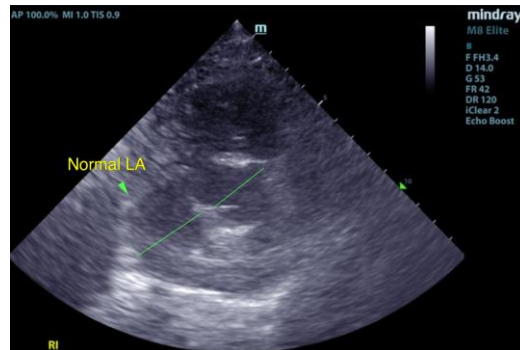
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)  
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