



PATIENT

Liaden Opperman

SPECIES

Feline

BREED

Russian Blue

SEX

Spayed Female

AGE

15 Years

WEIGHT

11.5 Pounds

PRESENTING CLINICAL SIGNS

History: Labored breathing since yesterday. Losing weight, non-specific diffuse interstitial lung pattern on radiographs. Current meds: Received one lasix injection at 3:30. Abnormal PE/Chem/CBC/UA Results: n/a

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

| FELINE CARDIAC PARAMETERS | BODY WEIGHT (kg) | HR (BPM) | IVSd (cm) | LVIDd (cm) | LVWd (cm) | FS (%) | EF (%) |
|---|------------------|---------------------------|--|-----------------|-----------------|-----------|--------|
| NORMAL PARAMETER | ----- | 150-240 | 0.3-0.6 | 1.0-2.1 | 0.25-0.6 | 35-67 | 80-100 |
| PATIENT | -- | 234 | 0.59 | 1.62 | 0.57 | 46.9 | 81.8 |
| FELINE CARDIAC PARAMETERS | LA/AO (Boon) | LA/AO HEART BASE (Sisson) | LA 2D 4-chamber long axis AS to FW (Sisson) (cm) | LVOT VEL. (m/s) | RVOT VEL. (m/s) | IVRT (m/) | |
| NORMAL PARAMETER | <1.5 | 0.88-1.79 | 0.7-1.7 | <1.6 | <1.3 | 40-60 | |
| PATIENT | 1.8 | 1.8 | 1.8 | 1.0 | 0.64 | NM | |
| Adapted from June Boon, Veterinary Echocardiography, 1998 | | | | | | | |
| Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705 | | | | | | | |

INTERPRETED BY

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

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Kim

INVOICE

16819

DATE

8/12/22

Cardiac Presentation

The echocardiogram in this patient demonstrated borderline to mild **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented within normal limits for thicknesses with maintained linear contour without LV dilation or restriction. The **myocardium** presented subjective mild uniform hyperechoic endocardium, likely consistent with age-related myocardial changes or minor fibrosis associated with age. No 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 and angles of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed borderline to mild subjectively increased size and normal content. No evidence of LA or RA spontaneous contrast or evidence of overt masses. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinetics. Minor TR was present on doppler. TR measured 1.9 m/s. 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). Scant pericardial free fluid was present without evidence of concurrent free pleural fluid or overt extracardiac pathology in the visible planes. The cranial **mediastinum and pericardial regions** were free of overt or visualized masses in the visible window.



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A brief sonographic assessment of the liver revealed evidence of transdiaphragmatic comet tail artifact. This finding may suggest echogenic sound wave interference with microconsolidations within the caudal lung field, which is not typically visualized by sonogram unless pathology is present. Considerations for this finding may include alveolar lung disease, such as neoplasia, thromboembolic disease, chronic inflammatory disease with microconsolidation or other.

ULTRASONOGRAPHIC FINDINGS

- Borderline to mild subjective biatrial enlargement
- Overtly normal LV with minor increased endocardium echogenicity- no evidence of overt HCM criteria
- Minor TR
- Scant pericardial effusion transdiaphragmatic comet tail artifact

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, the cardiac presentation, given the lack of significant left or right heart chamber enlargement, lack of LV systolic dysfunction, or evidence of clinical pulmonary hypertension was not obviously consistent with cardiogenic breathing abnormalities or scant pericardial effusion. Possible exceptions to this finding may include iatrogenic or stress induced event, which may lead to potential decompensation even without evidence of significant left or right heart chamber enlargement or decreased cardiac functionality. Therefore, the respiratory abnormalities in this patient may potentially be multifactorial in origin. It would be reasonable to continue Lasix in the short term at the lowest effective dose with continued monitoring of clinical response and three view chest radiographs. Potential weening of Lasix, pending clinical response, with further monitoring, could be considered. No other indication for additional cardiac medications. As needed respiratory support would be reasonable. Monitoring of renal parameters is advised while on diuretic therapy, screening blood pressure, if possible, is suggested. Recheck echocardiogram is recommended in 2-3 months to reassess LA dimension or sooner if continued potential episodes of CHF are noted.





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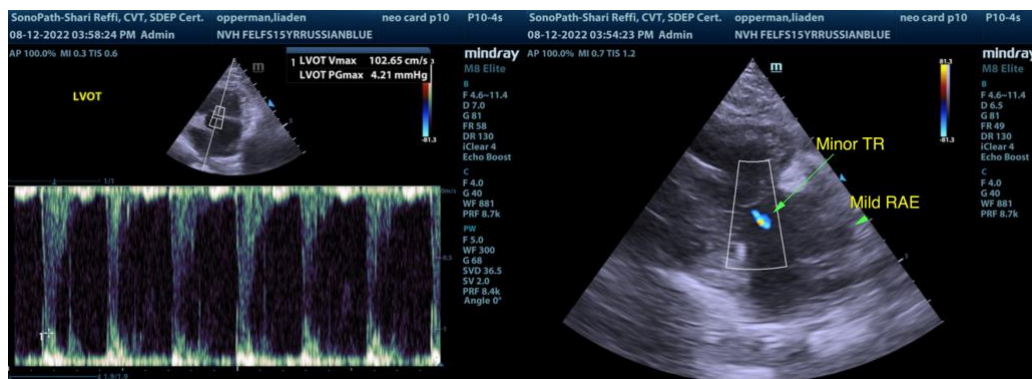
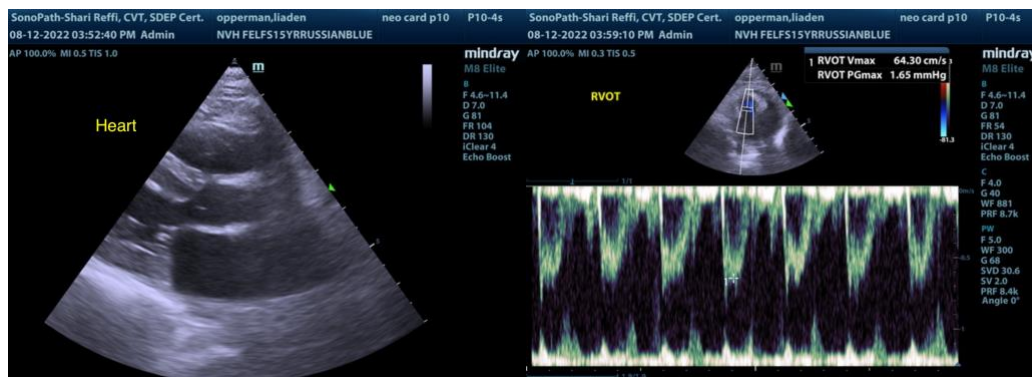
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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