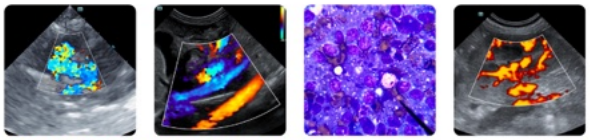



**PATIENT**

Hiro Vo

**SPECIES**

Feline

**BREED**

Domestic Longhair

**SEX**

Neutered male

**AGE**

3 ½ years

**WEIGHT**

4.16 kg

**INTERPRETED BY**

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

**IMAGING PERFORMED BY**

Dr. Mariusz Chmielinski

**HOSPITAL NAME**

Apex Veterinary Service

**REFERRING VET**

Alpine 24/7 ER Doctor

**INVOICE**

69286

**DATE**

12/15/25

## PRESENTING CLINICAL SIGNS

History: Acute onset respiratory distress with increased respiratory rate and effort noted at home on December 14, 2025. Known cardiac disease / heart failure, previously evaluated by echocardiography ~1 year ago (no report available) in November 2023 - SNAP Feline proBNP - Abnormal Chronic medications: Furosemide, Pimobendan, Fortekor History of mild azotemia, monitored by rDVM Indoor-only, vaccinations up to date Appetite normal prior to presentation Abnormal PE/Chem/CBC/UA Results: Weight: 4.3 Temp: 39.4 HR: 238/bpm Respiratory Rate: 30 in kennel - 60 when handled Mucous Membranes: pk CRT: <2 BP: 159/84 (93) Cardiovascular: Grade 3/6 murmur Normal RR and effort when resting in kennel, increases for handling. Thoracic Radiographs: A mixed pulmonary pattern is identified. The predominant component is a bronchial pattern, with scattered focal regions of alveolar infiltrates. TFAST Scan: Some B-lines were identified in Left Cd (3-4) and Right Cd 1-3, Left Ph 1-3 BW: CBC: (Ht 51.4%), mild thrombocytopenia (slow blood draw - likely clumping) Chem: mild hyperglycemia, mild azotemia (creatinine 210, urea 10.5) Lytes: mild hypokalemia

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The left atrium is normal in dimension. There are no distinct left atrial thrombi/clots or spontaneous echo contrast appreciated. The left ventricle is normal in dimension as well as wall thickness, and no evidence of restriction. Left ventricular systolic function is normal, with adequate contractility based on fractional shortening and systolic left ventricular dimensions. The right atrium and ventricle are subjectively normal in dimension and systolic function. The anterior and posterior mitral and tricuspid valve leaflets presented normal linear structure, extension in systole, and union in diastole without regurgitation. There is no evidence of systolic anterior mitral valve motion documented. The left ventricular outflow tract demonstrated normal laminar flow, with mild physiologic aortic insufficiency. The visible aorta is unremarkable. Pulmonary outflow tract assessment revealed normal valve structure, laminar flow, and appropriate diameter and distensibility. There is no evidence of pulmonary hypertension documented. There is no visible pericardial, pleural, or free peritoneal fluid noted.

| **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** | 4.16 | NM | 0.52 | 1.09 | 0.56 | 43 | 79 |
| **FELINE CARDIAC PARAMETERS** | **LA/AO** (M-mode) | **LA/AO HEART BASE** (Sisson) | **LAD** LA MAX 4 Chamber | | **LVOT VEL.** (m/s) | **RVOT VEL.** (m/s) | **IVRT** (m/) |
| **NORMAL PARAMETER** | <1.5 | 1.6 | 0.7-1.7 | | <1.6 | <1.3 | 40-60 |
| **PATIENT** | 1.23 | 1.14 | 1.22 | | 0.8 | 0.7 | 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

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## ULTRASONOGRAPHIC FINDINGS

These findings are consistent with an essentially normal echocardiogram. The presence of an elevated BNP is often associated with underlying heart disease, but can be seen in animals without heart disease (especially in the presence of azotemia, as this marker is renally excreted). In addition, changes on chest X-rays can occur without significant underlying disease. The absence of any abnormalities on the echo excludes any meaningful cardiac disease at this time. Any murmur will be considered functional in origin at this time.

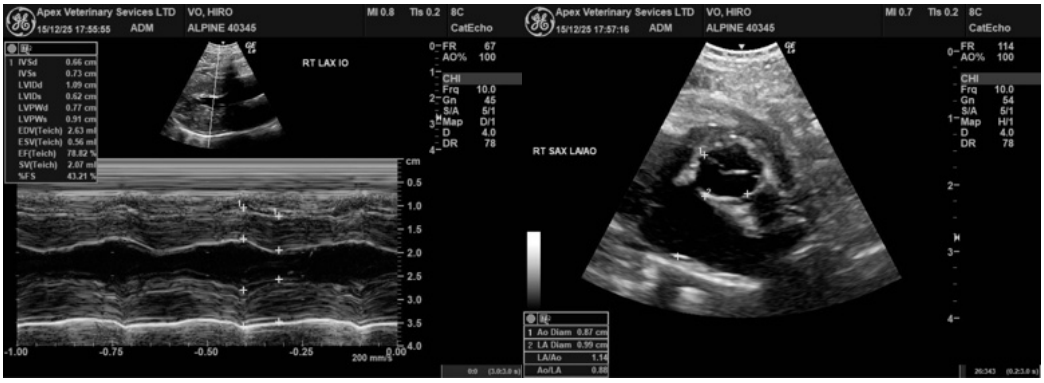
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given these findings, no changes to cardiac therapy are recommended. In the face of mild azotemia, weaning or reducing the diuretic administration could be considered. Given the history of previous cardiac disease, a transient myocardial hypertrophy, or resolved iatrogenic or intrinsic condition (fluid overload, steroid administration, hyperthyroidism, chronic anemia, etc) must be considered. At this time, there are no cardiac contraindications to corticosteroids or fluid therapy as indicated for further treatment. A recheck echocardiogram is recommended in 3-6 months when clinical signs have resolved.

Anesthesia considerations:
No special cardiac considerations are necessary

Diet:
No special considerations are necessary. Any high-quality food from Hills, Royal Canin, Science Diet, Eukanuba, Iams, or Purina is reasonable.

Activity:
No special considerations are necessary.



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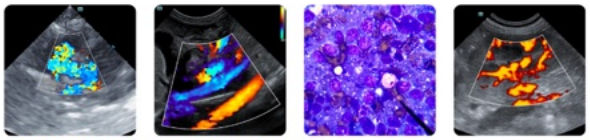

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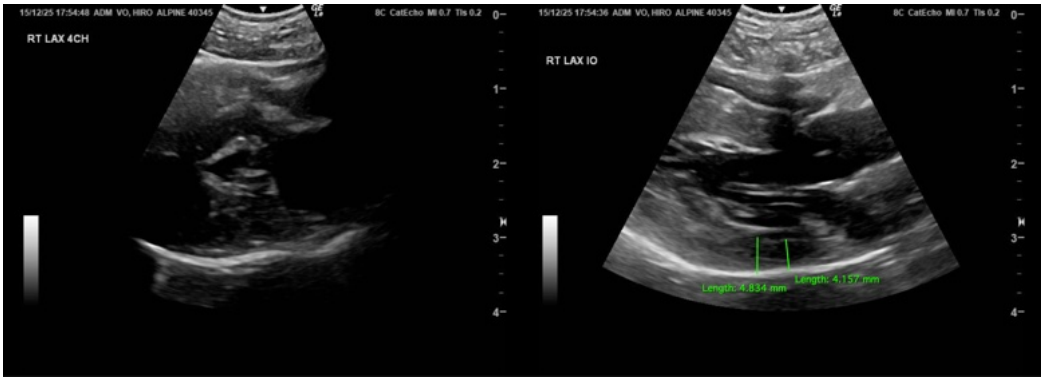


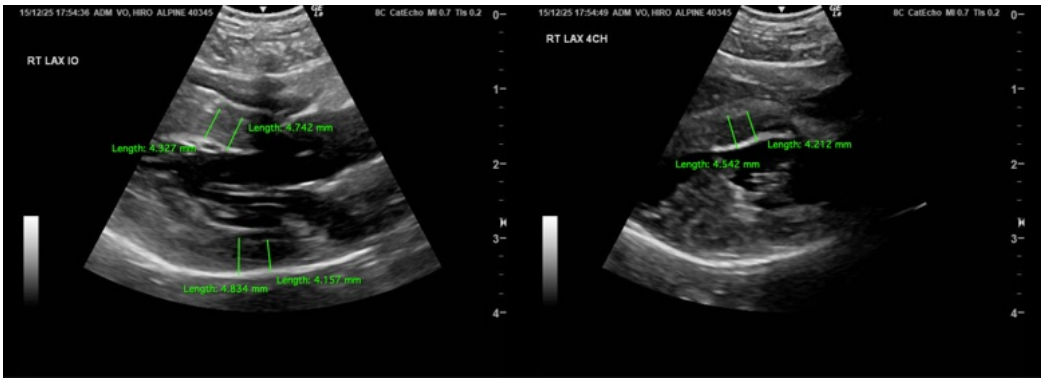


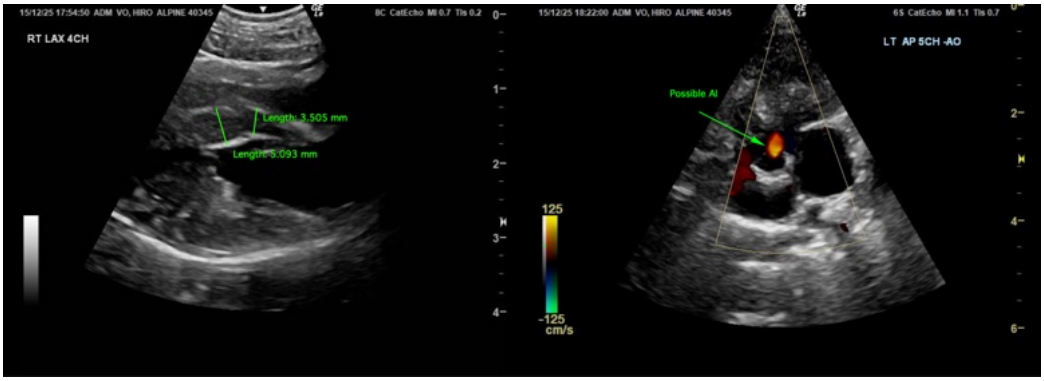

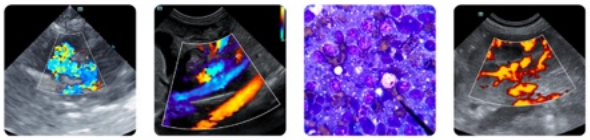



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**The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.**

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.

Bradley Harris, DVM, DACVECC, DACVIM (cardiology)

info@SonoPath.com