



PATIENT

Nish Lambert

SPECIES

Feline

BREED

Main Coon

SEX

Neutered Male

AGE

6 Years

WEIGHT

13.2 Pounds

PRESENTING CLINICAL SIGNS

History: Hx of heart murmur. Trouble breathing in presentation. Responded to Albuterol, no improvement on Lasix. No current meds.

Abnormal PE/Chem/CBC/UA Results: BUN 50.5, Creat 2.4, Neu 15.6, Neu% 82.5, Mono % 0.4, ALT 426

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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	--	NM	0.58	1.46	0.5	30	--
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	--	--	.60	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

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jessica Miller

HOSPITAL NAME

Newton VH

REFERRING VET

Dr. Kim

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7/18/22

Cardiac Presentation

The left atrium was slightly enlarged in this patient with mitral insufficiency. Hypocontractility was present and arrhythmogenic activity. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. Aortic outflow velocity was subnormal. Septal and free wall thicknesses were normal, however, contractility was poor. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. Minor tricuspid insufficiency was noted at 2.0 m/s. 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). No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

The **kidneys** presented a relatively uniform cortical hyperechogenicity when compared to the renal medulla, spleen and liver. No overt masses were noted. Corticomedullary definition was nebulous and the ratio favored the cortex slightly. The ureters were not visible and assumed to be normal. These



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changes are most consistent with chronic interstitial nephritis yet infiltrative disease could not be entirely ruled out without biopsy though neoplasia is not suspected. This is a mild change. The left kidney measured 4.77 cm.

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Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 0.43 cm. The left adrenal gland measured 0.44 cm.

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Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes were noted.

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Liver

The **liver** was largely normal, except for a small 5.0 mm anechoic cyst in the left liver. The gallbladder and common bile duct were unremarkable.

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Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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ULTRASONOGRAPHIC FINDINGS

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- Unclassified cardiomyopathy or possible myocarditis
- Minor interstitial nephrosis renal pattern
- Anechoic cyst in the left liver

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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There is cardiac disease in this patient, most consistent with unclassified cardiomyopathy. Structurally, the heart appears unremarkable, however, arrhythmogenic disease and poor contractility with mild volume overload is present. The kidneys do not appear end stage, therefore, the BUN and creatinine elevations are more likely prerenal. Empirical use of off-label Pimobendan at 0.3 mg/kg BID with taurine supplementation and reassessment of the diet to assess of nutritional cardiomyopathy may be playing a role. Moreover, causes of myocarditis should also be considered, such as bartonella and other. Recheck echo after 1 week of Pimobendan. Assessment of radiographs, sleeping respiratory rate with target <25 per minute. BUN and creatinine should be monitored carefully. EKG indicated, given the arrhythmia noted.

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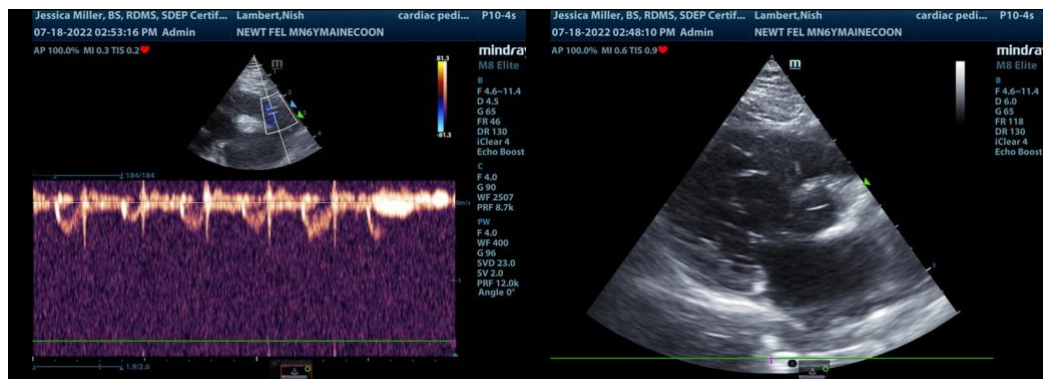
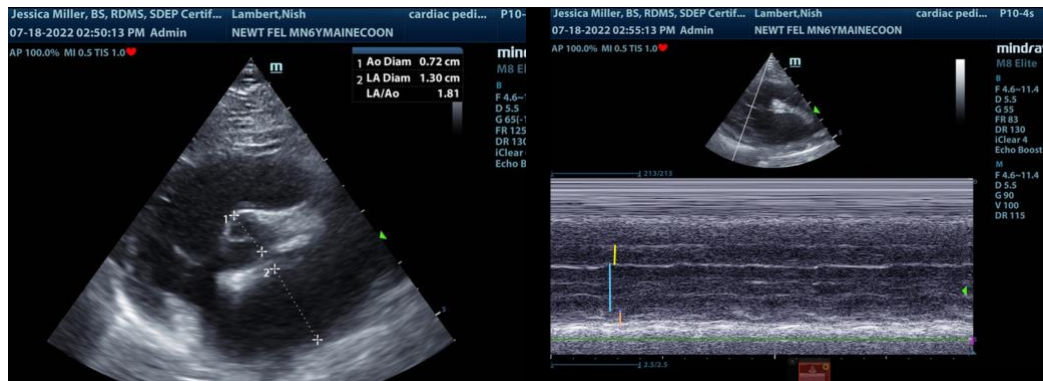
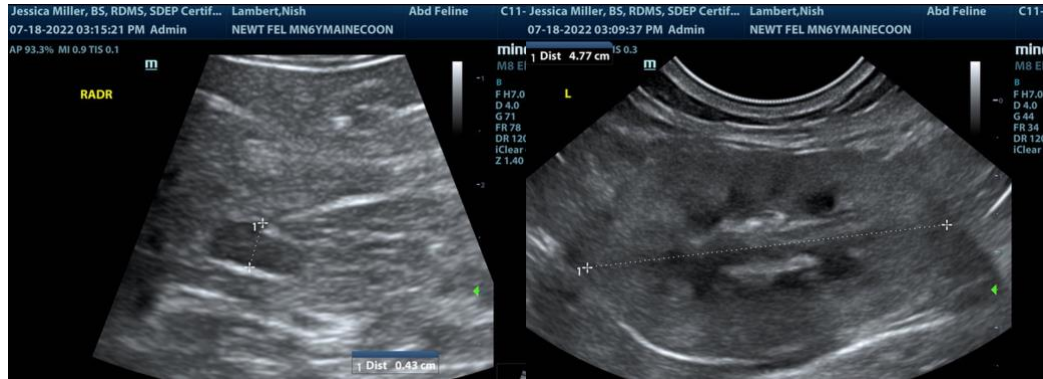
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com