PATIENT

Ruthie Hirsch

SPECIES

Feline

BREED

DSH

SEX

FS

AGE

16 years

WEIGHT

5 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Chloe Lowe, CVT

HOSPITAL NAME

All Creatures Great and Small Denville

REFERRING VET

Dr. Ashmore

INVOICE

10935

DATE

5/28/26

PRESENTING CLINICAL SIGNS

First visit today. History of cardiomyopathy from eclipse for one year. Weight loss of 3 pounds.
Abnormal PE/Chem/CBC/UA Results: Pending

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

FELINE CARDIAC PARAMETERS	BODY WEIGHT	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	5 lbs.	NM	0.51	1.42	0.51	46	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	1.2	1.2	1.2		1.1	0.9	-
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							

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size and structure. The cranial and caudal **mitral** valve leaflets presented minor irregular age-related changes that are not clinically significant at this time with adequate extension in systole and union in diastole. Minor MR was noted on Doppler. The **left ventricle** presented normal free wall and septal thicknesses with linear contour. The **myocardium** presented some echogenic remodeling consistent with expected age-related change. **Contractility** of the ventricular walls was adequate and in normal range for this breed and patient size. The **left ventricular outflow** tract demonstrated normal laminar flow with subjectively unremarkable structure. Normal measured LVOT velocity was noted with aortic valve insufficiency on Doppler. Subjective assessment of the **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated expected findings for this age patient. The **right ventricle** was of normal size (1/3 diameter of LV), echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleural fluid was noted. The **mediastinum** was free of masses in the visible window.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

The area of the iliac trifurcation was free of pathology.

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Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 3.0 cm in length. The right kidney measured 3.6 cm in length.

Adrenal Glands

The left and right adrenal glands were uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.36 cm width and the right adrenal gland measured 0.41 cm width.

Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver/ Gallbladder

The liver was subjectively mildly enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size containing primarily anechoic content with mild gallbladder debris. The common bile duct was not definitively visualized.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty without evidence of retained ingesta or foreign material. Mild retained anechoic fluid was present

The small intestine presented intact thickened wall exhibiting decreased mural echogenicity and propensity for mildly thickened mucosa layer. The small Intestinal wall width measured 0.27-0.29 cm.

Normal visible colon wall layers were present with formed feces in lumen.

Pancreas

The pancreas was normal in size, exhibiting capsule asymmetry and mild nonhomogeneous parenchyma. Dilated pancreatic duct was noted.

Free Abdomen

No significant or swollen mesenteric lymphadenopathy was visualized. Generalized mild increased omental echogenicity was present. No obvious effusion was noted.

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ULTRASONOGRAPHIC FINDINGS

- Overall normal cardiac structure / function with myocardial remodeling
- Minor mitral insufficiency
- Aortic valve insufficiency
- Bilateral chronic renal changes
- Chronic pancreatitis
- Non-congested hepatomegaly with mild gallbladder debris
- Enteropathy

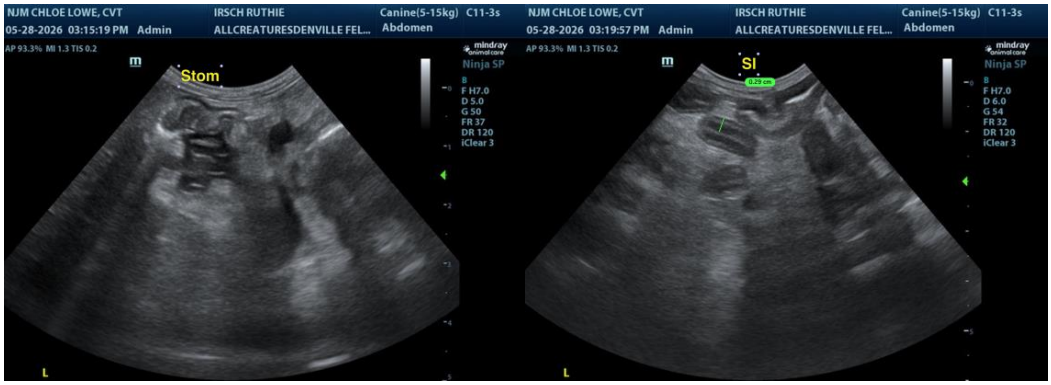
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

There is no evidence of significant structural / functional cardiomyopathy. Regardless of cardiac classification, the lack of left or right heart chamber enlargement indicates that the current and future risk of complications is low. Assessment of systemic BP for evidence of hypertension, given aortic valve insufficiency, is recommended. There is no indication for cardiac medications. Echocardiographic monitoring is recommended with a recheck echocardiogram suggested in 6 months, sooner if clinical signs arise.

IBD or other inflammatory enteropathy with potential for intestinal round cell neoplasia, i.e., lymphoma, and triad disease are primary differentials. Correlation with pending lab work and consideration for screening hepatic FNA cytology, using a 25-gauge needle and assuming normal clotting status, given hepatomegaly, and if hepatic enzyme elevations are noted, is recommended. A GI panel to include PLI/TLI/Cobalamin/Folate is recommended. Gastrointestinal support and empirical therapy for IBD/Triaditis may be considered.

Cardiac anesthetic risk is considered mild. If required, the following protocol is suggested.

Suggested anesthetic protocol may include opioid or Benzodiazepine pre-med, induction with Propofol or Alfaxalone, and appropriate gas anesthesia with avoidance of alpha 2 agonists.



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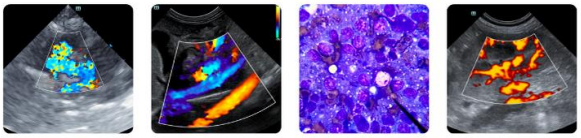

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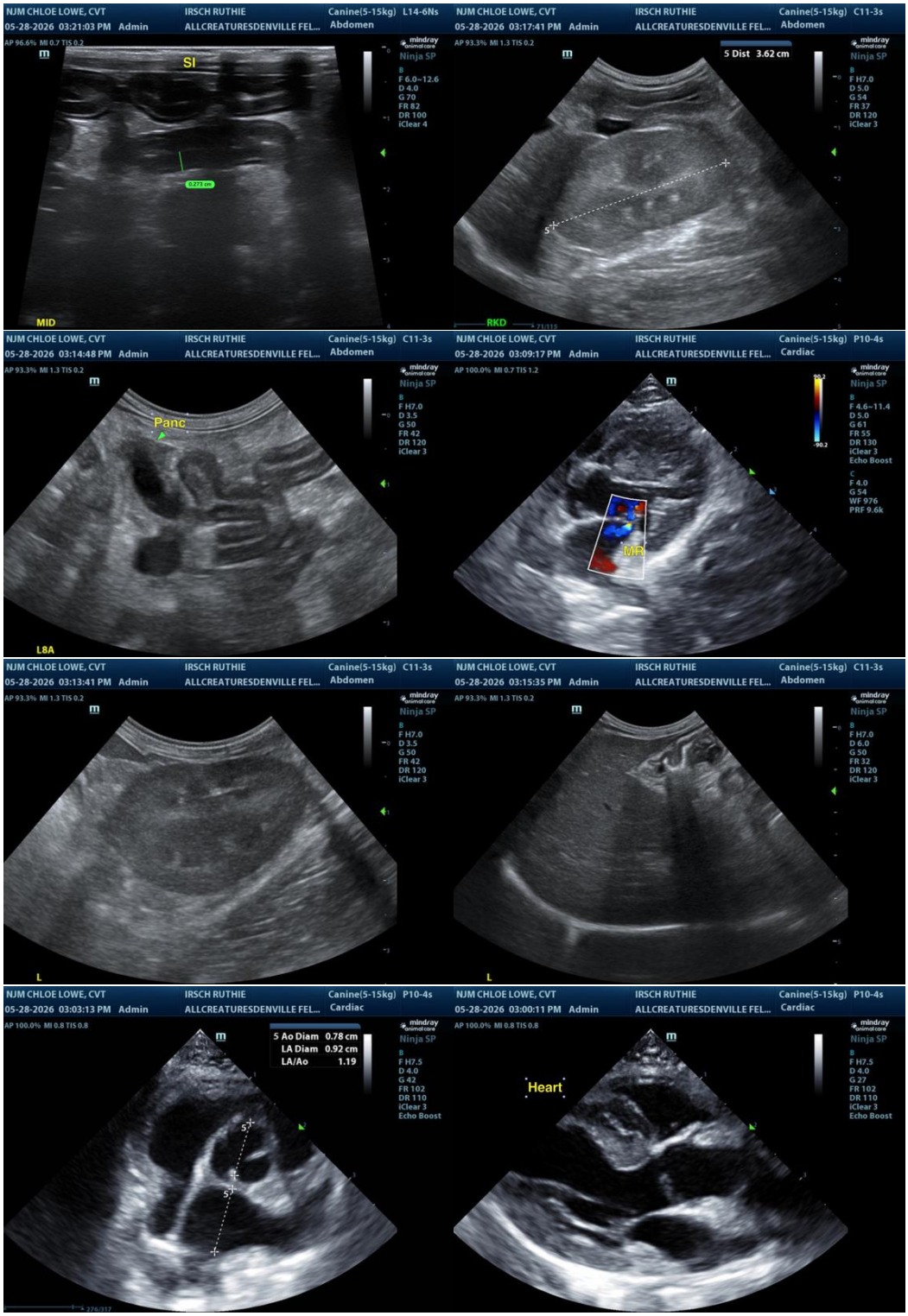

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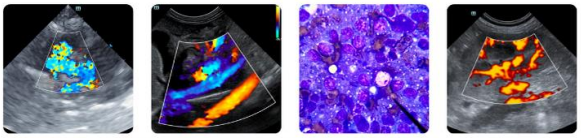

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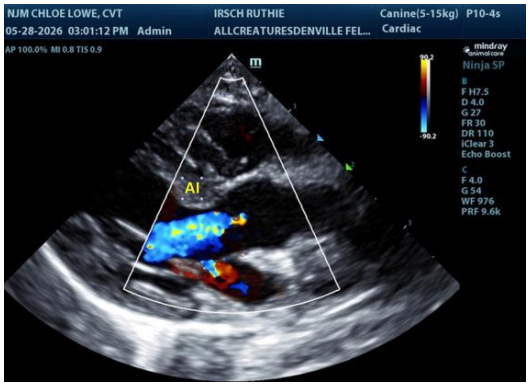

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)
info@sonopath.com