



PATIENT

Reggie Hess

SPECIES

Feline

BREED

DLH

SEX

FS

AGE

17 years

WEIGHT

5 lbs. 10 oz

INTERPRETED BY

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

IMAGING PERFORMED BY

Kelly Vazquez

HOSPITAL NAME

Ringwood AH

REFERRING VET

Dr. Wilkes

INVOICE

14812

DATE

9/6/22

PRESENTING CLINICAL SIGNS

Patient presents for grade 3/6 systolic murmur, mild anemia on blood work, mildly elevated SDMA. Current meds: Gabapentin.

Abnormal PE/Chem/CBC/UA Results: RBC 7.09, HCT (WNL), SDMA 16, Cl. 113. U/A: rare rods, USG: 1.017.

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		145	0.5	1.22	0.5	36	70.2
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	1.47	1.3	1.35		0.8	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							

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size and structure. Chamber volume and blood echogenicity were normal. 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. No overt MR was noted. The **left ventricle** presented normal free wall and septal thicknesses with linear contour. Mildly prominent to remodeled papillary muscles were noted. 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. 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. No overt TR was noted. 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). Normal RVOT velocity was noted. No visible **pericardial** or free pleural fluid was noted. The **mediastinum** was free of masses in the visible window.



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Urinary System

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The urinary bladder, trigone, and cystourethral junction 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 was noted.

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The area of the aortic 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 mild to moderate loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pyelectasia was present. The left kidney measured 3.2 cm in length. The right kidney measured 3.1 cm in length.

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Adrenal Glands

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The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.41 cm width. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.57 cm width.

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Spleen

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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

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The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. Focal to intermittent nondisruptive nonhomogeneous to subtly hypoechoic intraparenchymal nodules were present with an example measuring 0.60 cm in diameter. 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, nondependent, nonorganized gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammatory criteria was noted. The cystic and common bile ducts were normal.

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Gastrointestinal

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The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

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The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.

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



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Pancreas

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The pancreas was mildly prominent in size with areas of minor asymmetry. Nonhomogeneous mildly hypoechoic parenchyma was present. Mild pancreatic duct dilation was noted.

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Free Abdomen

No omental masses, lymphadenopathy, or peritoneal effusion were noted.

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ULTRASONOGRAPHIC FINDINGS

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- Mild to moderate chronic renal changes

FS

- Nonhomogeneous mildly hypoechoic pancreas exhibiting mild pancreatic duct dilation - age-related pancreatic changes, potential for mild chronic to chronic active pancreatitis

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- Hepatic parenchymal remodeling with focal to intermittent nonspecific intraparenchymal nodules - subjectively benign

WEIGHT

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- Mild gallbladder debris

- Normal left atrium

- LV myocardial remodeling

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No evidence of significant structural or functional cardiomyopathy, given the patient's age. A definitive cause of the murmur was not obvious. Potential for a physiological or flow murmur, if no evidence of volume changes such as dehydration, possibly secondary to mild anemia. Regardless, the hemodynamic effects of the murmur appear to be low without evidence of left or right heart chamber enlargement. No indication for cardiac medications is evidence. Continued monitoring of the murmur is recommended with potential recheck echocardiogram if murmur intensity increases or if clinical signs suggestive of heart disease arise.

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Largely geriatric abdomen without evidence of significant abdominal visceral pathology.

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Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

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Low-grade to chronic pancreatitis may be suspected if evidence of cranial abdominal or subxiphoid discomfort on palpation. Correlation with a Spec fPL may be considered if clinically indicated.

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Intermittent hepatic nodules, although nonspecific, are suggestive of minor areas of nodular to regenerative hyperplasia, possible hematopoiesis, or small granulomas. Emerging neoplastic hepatic nodules are considered a less likely differential diagnosis. Sonographic monitoring of the liver for evidence of progressive parenchymal or nodular changes may be considered.



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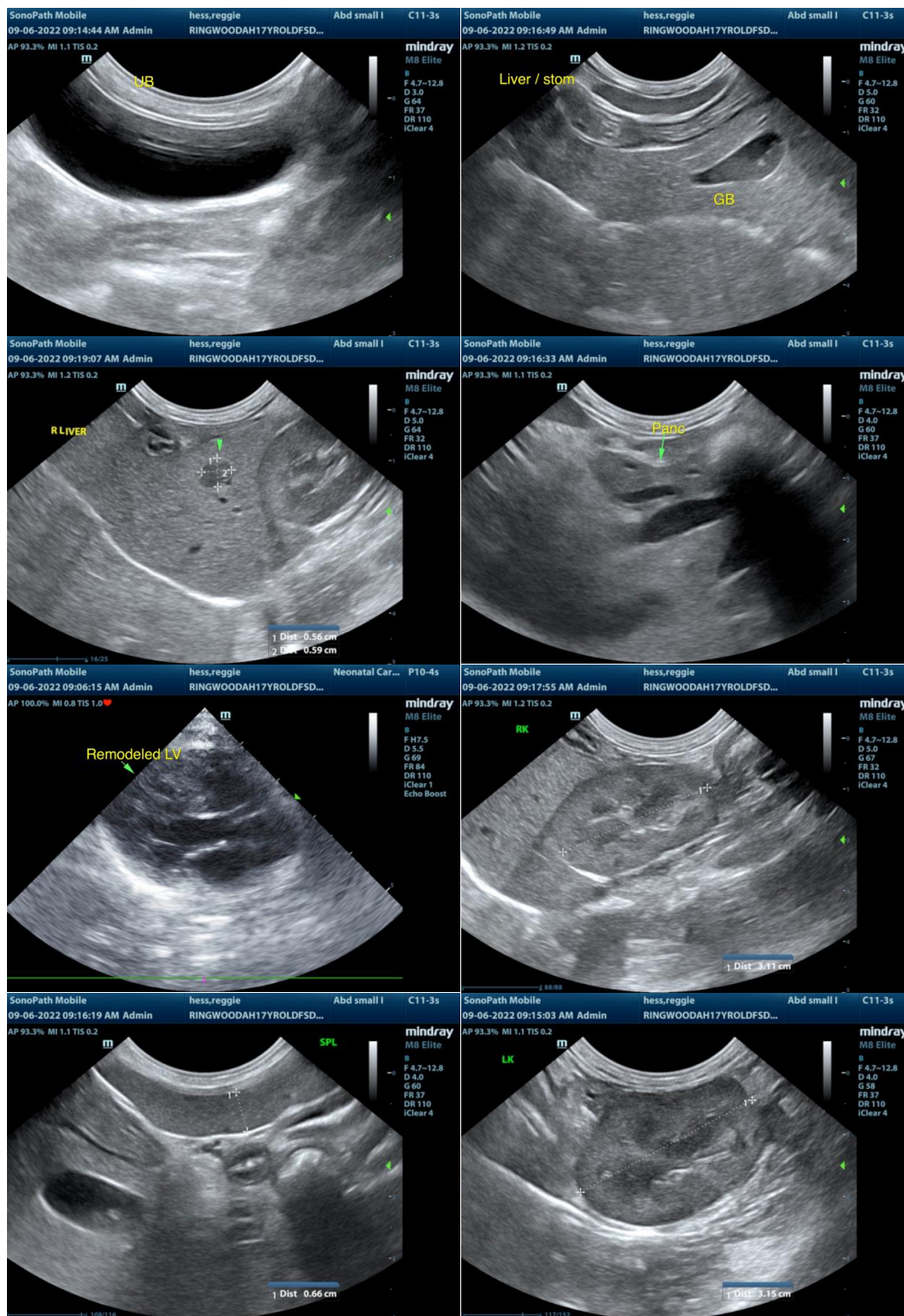
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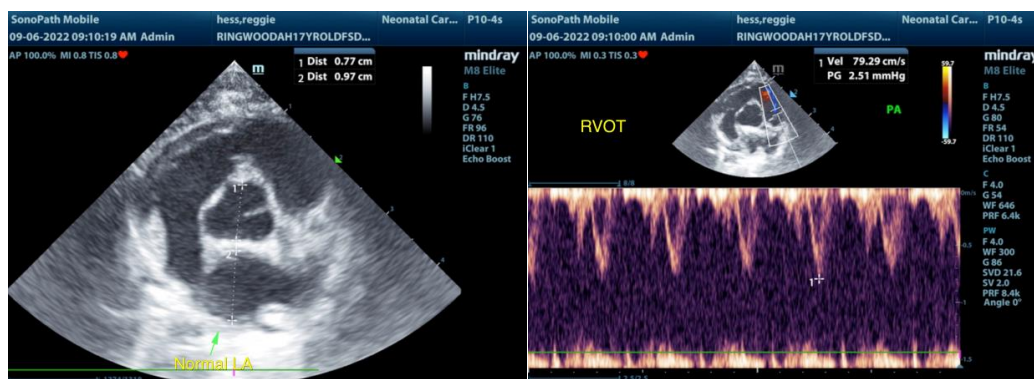
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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