



## PATIENT

Harley Cunningham

## SPECIES

Canine

## BREED

Labrador Retriever

## SEX

Neutered Male

## AGE

7 Years

## WEIGHT

100 Pounds

## PRESENTING CLINICAL SIGNS

History: Mild coughing, rads did not reveal any abnormalities. Otherwise wnl. Elevated ALKP. Torb. for u/s no current meds otherwise.

Abnormal PE/Chem/CBC/UA Results: ALKP 411 (131 H)

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	--	--	1.28	1.3	36.6	66.4	0.30
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	114	1.7	2.0	--	5.2	4.8	--

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Shari Reffi, CVT

## HOSPITAL NAME

Animal Mansion

## REFERRING VET

Dr. Parker

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14721

## DATE

4/14/22

### Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective 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 of the myocardium. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated subjective adequate linear morphology and kinesis. Mild TR was present on doppler. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract assessment revealed overtly normal valve structure, although indistinctly visualized. Borderline to mild elevated RVOT. Doppler revealed mild pulmonic valve insufficiency. 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, cystourethral junction, and visible pelvic urethra exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae



<b>PATIENT</b>	were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.
Harley Cunningham	The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture measuring 0.94 cm in diameter.
<b>SPECIES</b>	Normal size and margination was present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 7.1 cm in length. The right kidney measured 7.1 cm in length.
Canine	
<b>BREED</b>	
Labrador Retriever	<b>Adrenal Glands</b>
<b>SEX</b>	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.98 cm width at the caudal pole and 0.66 cm width at the cranial pole.
Neutered Male	The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.97 cm width at the caudal pole and 1.1 cm width at the cranial pole.
<b>AGE</b>	<b>Spleen</b>
7 Years	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.
<b>WEIGHT</b>	<b>Liver</b>
100 Pounds	The liver presented 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.
<b>INTERPRETED BY</b>	The gallbladder was non distended in size with mild gallbladder debris. The gallbladder was otherwise normal. The cystic duct and common bile ducts were normal without evidence of dilation.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	<b>Gastrointestinal</b>
<b>IMAGING PERFORMED BY</b>	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.
Shari Reffi, CVT	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.
<b>HOSPITAL NAME</b>	Normal visible colon wall layers were present with apparent formed feces in lumen.
Animal Mansion	<b>Pancreas</b>
<b>REFERRING VET</b>	The parenchyma of the left limb, body and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease was evident.
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No overt lymphadenopathy or peritoneal effusion was present.

Harley Cunningham

**ULTRASONOGRAPHIC FINDINGS**

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Labrador Retriever

- Normal cardiac structure and function
- Borderline to mild elevated RV outflow velocity with minor pulmonic valve insufficiency
- Minor TV insufficiency
- Vacuolar hepatopathy pattern- subjectively benign
- Mild gallbladder debris (non-mucocele)

**SEX**

Neutered Male

**AGE**

7 Years

**WEIGHT**

100 Pounds

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The borderline to mild elevated RV outflow velocity is of unclear clinical significance. If a murmur is present, this may potentially be secondary to turbulent to dynamic RV outflow pattern which combined with concurrent mild pulmonic valve insufficiency may potentially indicate emerging pulmonic valve disease or possible low-grade stenosis. This does not appear to be a clinical issue at this point without evidence of right ventricular enlargement or hypertrophy. Otherwise, no other clinical cardiac issues, such as evidence of clinical pulmonary hypertension, left or right heart chamber enlargement or other significant valvular insufficiencies or systolic dysfunction that would indicate that the coughing in this patient is cardiogenic in origin. No indication for cardiac medications.

Continued monitoring for development or progression of a murmur, if present, with recheck echocardiogram suggested in 6 months. Overall, no overt evidence of abdominal visceral pathology. Hepatosupportive medications, including Denamarin and Ursodiol, may be considered with continued monitoring of hepatic enzymes.

**INTERPRETED BY**

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

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Shari Reffi, CVT

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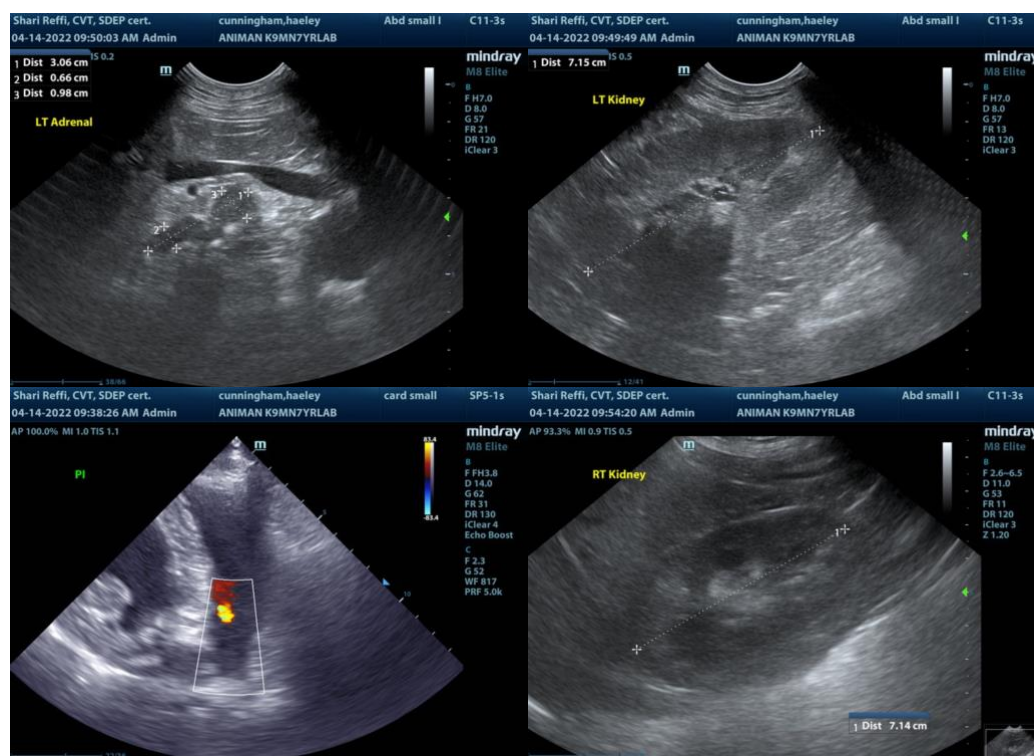
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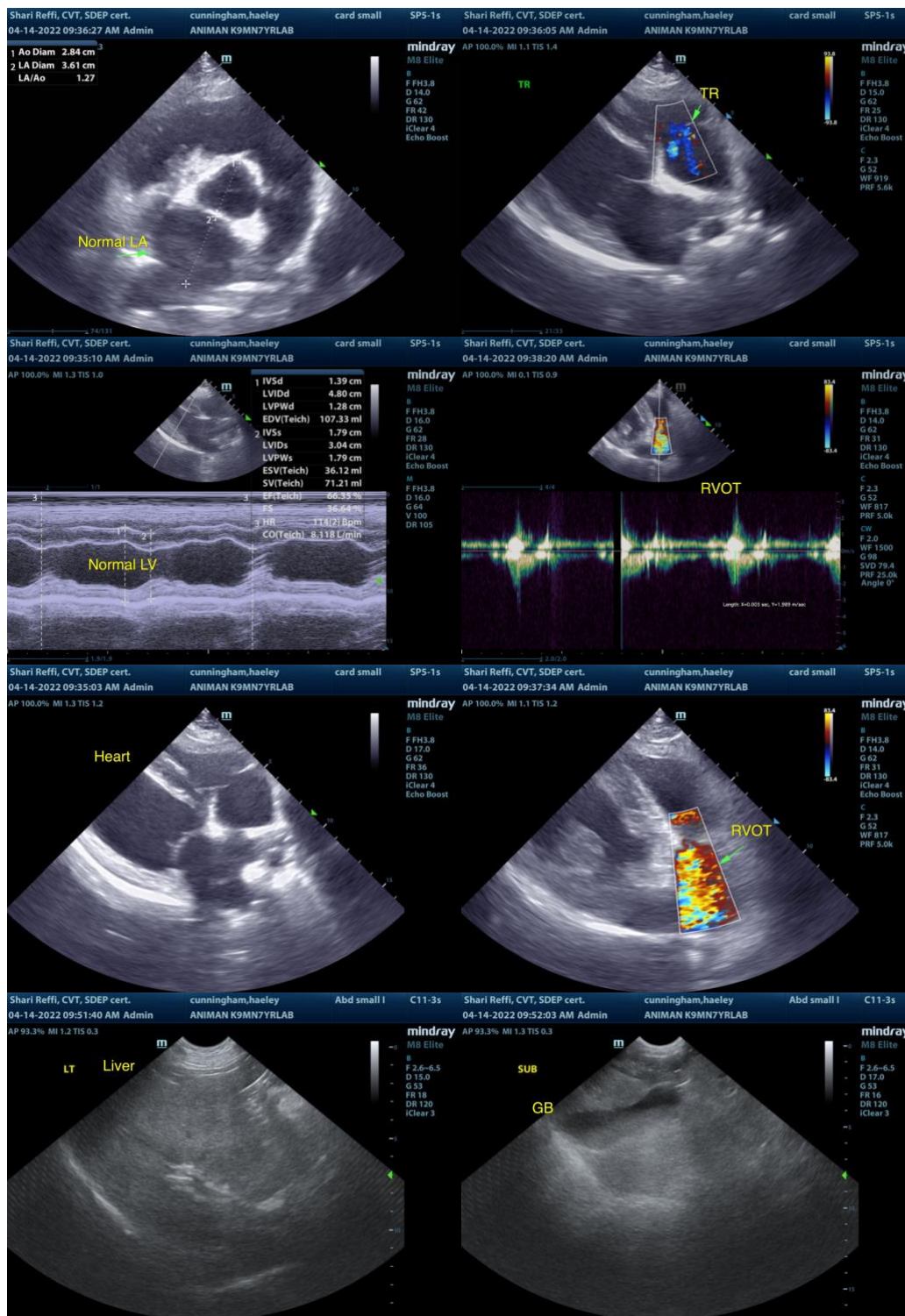
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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