


**PATIENT**

Luci Carlson

**SPECIES**

Canine

**BREED**

Cocker Spaniel

**PRESENTING CLINICAL SIGNS**

Previous U/S findings Aug 3, 2022 1) Chronic mitral valve disease (ACVIM B2, potentially progressive to stage C) 2) TR - estimated pulmonary pressure gradient ~25 mmHg, suggestive of mild increased pulmonary pressure yet not consistent with overt clinical pulmonary hypertension 3) Moderate chronic renal changes with small cortical cysts 4) Mild vacuolar hepatopathy pattern - benign 5) Mild gallbladder debris (non-mucocele)

Abnormal PE/Chem/CBC/UA Results: R/C Echo and AUS. Dog stable at this time. Grade 3/6 AV holosystolic murmur, PMI left hemithorax Medications: Pimobendan 2.5 mg BID Spironolactone 25mg x 1/2 BID Theophylline 100m x2 AM, 1 PM

**RECHECK ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART**

SEX	CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
FS								
AGE	NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
12yr	PATIENT	5.0	2.3	1.6	2.0	48	80	0.21
WEIGHT	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)
9.65kg								
INTERPRETED BY	NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	PATIENT	NM	1.6	0.95		5.0	3.9	

**Cardiac Presentation**

The echocardiogram for this patient presented excessive left atrial size expressed both in the LA/AO and LA max measurements. Subtle deviation of the interatrial septum towards the right atrium suggestive of mild increased left atrial pressure was noted. The cranial and caudal mitral valve leaflets presented moderate thickening consistent with endocardiosis. Doppler indicated measurable primarily eccentric insufficiency. The left ventricle presented thicknesses with linear contour and moderate increased LV volume. 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 or chamber overload. Tricuspid valvular assessment demonstrated concurrent thickening with TR present on Doppler. The right ventricle was of normal size (1/3 diameter of LV), chordae structure, myocardial 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 pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial mediastinum and pericardial regions were free of masses in the visible window. No overt arrhythmia.

**Urinary System**
**IMAGING PERFORMED BY**

Dr. Barnes

**HOSPITAL NAME**

Westview Veterinary Hospital

**REFERRING VET**

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<b>PATIENT</b>	The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 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.
Luci Carlson	
<b>SPECIES</b>	Normal size and asymmetrical 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. Mild left kidney pyelectasia was present. Discrete bilateral pinpoint medullary mineral was noted. Bilateral small cortical cysts were present. The left kidney measured 5.2 cm in length. The right kidney measured 6.1 cm in length.
Canine	
<b>BREED</b>	The area of the aortic trifurcation was free of pathology.
Cocker Spaniel	
<b>SEX</b>	<b>Adrenal Glands</b>
FS	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.67 cm width at the caudal pole and 0.51 cm width at the cranial pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.51 cm width at the caudal pole and 0.57 cm width at the cranial pole.
<b>AGE</b>	<b>Spleen</b>
12yr	The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present without evidence of nodular changes. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease.
<b>WEIGHT</b>	<b>Liver/Gallbladder</b>
9.65kg	The liver presented 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 with primarily anechoic luminal content and mild dependent hyperechoic non-organized debris. No evidence of gallbladder or peripheral gallbladder inflammation was present. The cystic and common bile ducts were normal.
<b>INTERPRETED BY</b>	<b>Gastrointestinal</b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	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.
<b>IMAGING PERFORMED BY</b>	<b>Pancreas</b>
Dr. Barnes	The left limb of the pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum, likely consistent with age related changes and considered incidental. No signs of active inflammation or neoplasia.
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## PATIENT

**Free Abdomen**

Luci Carlson

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

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## SEX

FS

## AGE

12yr

## WEIGHT

9.65kg

## INTERPRETED BY

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

## IMAGING PERFORMED BY

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## ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B2)
- TR-estimated pulmonary pressure gradient not overtly consistent with clinical pulmonary hypertension
- Bilateral chronic renal changes exhibiting small cortical cysts and mild left kidney pyelectasia
- Static mild hepatomegaly-benign, suggestive of vacuolar hepatopathy pattern
- Gallbladder debris-not consistent with mucocele criteria
- Heterogenous to remodeled left pancreas- patient/ age related variant, remodeling owing to previous inflammatory episode or mild to chronic pancreatitis possible

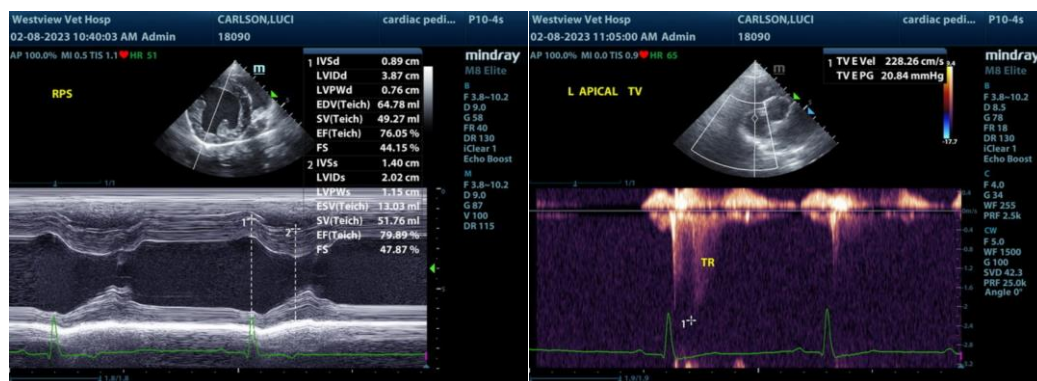
## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

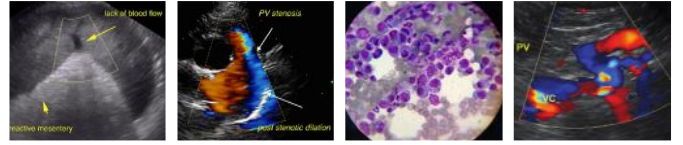
The heart continues to suggest moderate increased risk for future CHF episodes given the degree of LA/LV enlargement. Continued current medical therapy recommended if no current signs of increased resting RR or evidence of cardiogenic pulmonary edema. The addition of Lasix to current spironolactone therapy may be indicated if increased resting RR or evidence of pulmonary edema are noted. Sonographic monitoring is advised for further prognosis. Recheck echocardiogram recommended in 6 months, sooner if progressive clinical signs arise.

A largely static abdomen with primarily geriatric changes.

The left kidney pyelectasia may be owing to chronic renal changes, potential pelvic scarring possibly owing to previous calculi passage, IV fluid therapy (if applicable). Urine C/S and protein: creatinine ratio on sterile urine sample is recommended.

Hepatosupportive medications such as Denamarin and Ursodiol if evidence of cholestasis.





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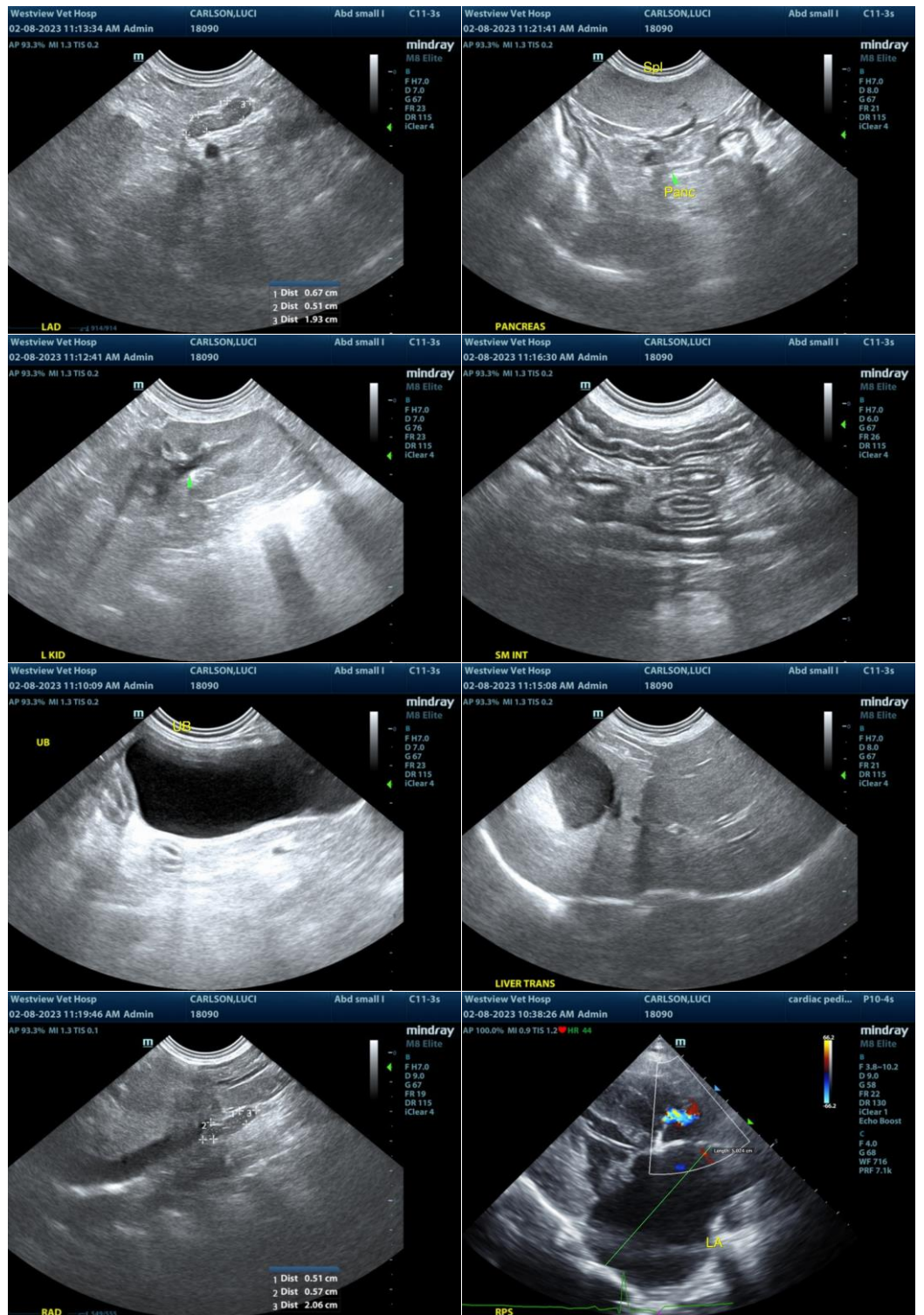
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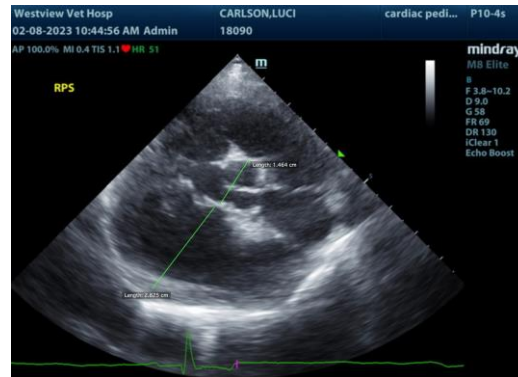
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)  
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