



PATIENT

Lucci Carlson

SPECIES

Canine

BREED

Cocker Spaniel

SEX

F/S

AGE

12 years 3 months

WEIGHT

9.2 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Brian Barnes

HOSPITAL NAME

Westview VH

REFERRING VET

Dr. Brian Barnes

INVOICE

14500

DATE

8/4/22

PRESENTING CLINICAL SIGNS

History of coughing, Tracheal collapse and DMVD Treating with DES 1mg once a week and controlling urinary incontinence Previous Hx of DMVD, Stage B2, Trivial TR, trace PI, No PH Last echo Aug 2021 Today Echo and AUS

Abnormal PE/Chem/CBC/UA Results: Easily induce a tracheal cough with digital palpation. Grade 3-4/6 AV murmur with PMI over Left hemithorax. Heart sinus arrhythmia. No adventitious lung sounds. Enlarged irritated vulva, consider Vaginitis, urinary tract disease, hyperestrogenism, is on DES for incontinence

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	5.2	2.5		2.7	53.3	84.9	0.33
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	NM	1.6	1.1		3.9	3.8	

Cardiac Presentation

The echocardiogram in this patient demonstrated moderately enlarged **left atrial** size based on 2 different LA measurement methods. Deviation of the interatrial septum towards the right atrium, consistent increased left atrial pressure, was present. Doppler indicated measurable moderate eccentric insufficiency. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. The **left ventricle** presented thicknesses with maintained linear contour with increased left ventricle 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 mild thickening with mild TR 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



PATIENT	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.
Lucci Carlson	
SPECIES	Urinary System
Canine	The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited overtly normal structure 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.
BREED	
Cocker Spaniel	
SEX	The area of the aortic trifurcation was free of pathology.
F/S	
AGE	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. Small bilateral cortical cysts were present. The left kidney measured 5.1 cm in length. The right kidney measured 6.0 cm in length.
12 years 3 months	
WEIGHT	Adrenal Glands
9.2 kg	The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 1.9 cm length x 0.66 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.0 cm length x 0.45 cm width at the caudal pole.
INTERPRETED BY	Spleen
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	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.
IMAGING PERFORMED BY	Liver/ Gallbladder
Dr. Brian Barnes	The liver exhibited subjective potential for mild enlargement. 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 content with moderate primarily dependent nonorganized mildly hyperechoic debris. The cystic and common bile ducts were normal.
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DATE	Gastrointestinal
8/4/22	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.



PATIENT

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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.

SPECIES

Canine

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

BREED

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Pancreas

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 were evident.

SEX

F/S

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

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ULTRASONOGRAPHIC FINDINGS

WEIGHT

9.2 kg

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

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cardiac presentation appears to be essentially static compared to the previous ultrasound yet indicates moderate left atrium enlargement which suggests moderate increased potential for complication secondary to mitral valve insufficiency. Concurrent Increased left ventricle volume is noted. No other clinical issues such as LV systolic dysfunction or overt clinical pulmonary hypertension were present.

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Continued Pimobendan 0.3 mg/kg PO BID is recommended. A weak diuretic at this stage i.e., Spironolactone 1.0-2.0 mg/kg PO BID could be considered. Continued close monitoring of resting respiration rate and for evidence of clinical signs suggestive of congestion is recommended. Recheck echocardiogram is suggested in 6 months, sooner if clinical signs arise or if evidence of radiographic pulmonary edema. Antitussive medication i.e., Hydrocodone may prove beneficial.

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Largely geriatric abdomen without evidence of significant visceral pathology was evident.

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Assessment of hepatic enzyme levels is suggested if not recently done. Hepatosupportive medications may be considered if evidence of hepatic enzyme elevations or cholestasis.

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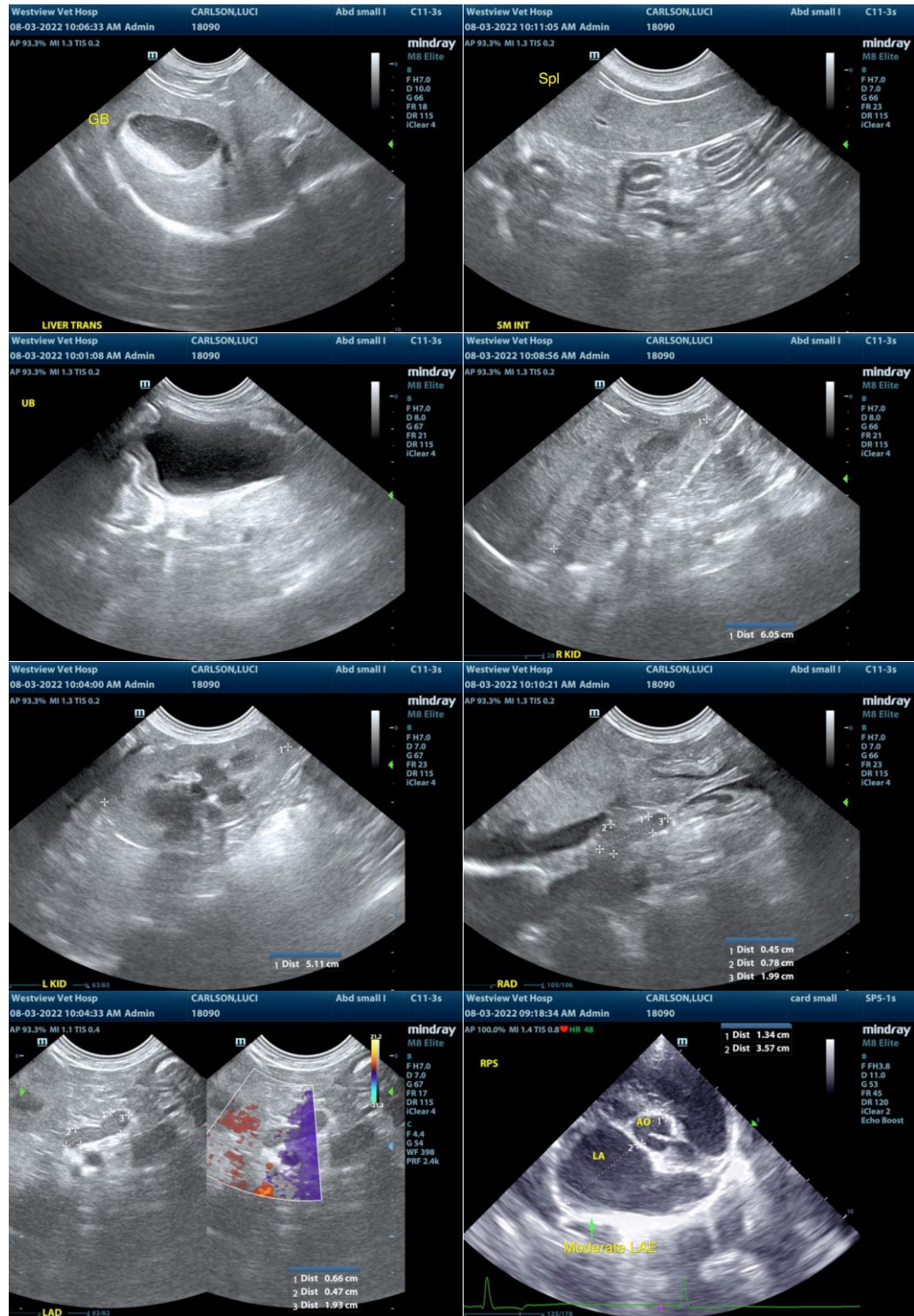
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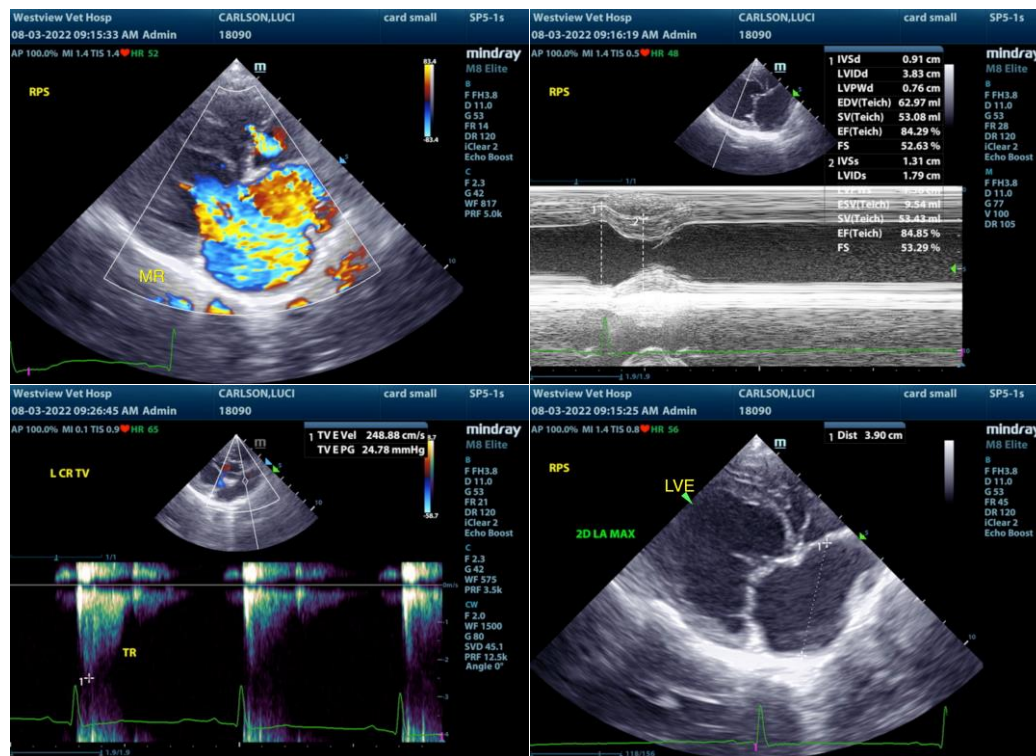
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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