



PATIENT

Luca Coate

SPECIES

Canine

BREED

Brittany Spaniel

SEX

MN

AGE

12 years

WEIGHT

50.4 lbs.

INTERPRETED BY

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

IMAGING PERFORMED BY

Jessica Miller

PRESENTING CLINICAL SIGNS

Monday started vomiting and increasingly lethargic, fever of 103, Tuesday no fever but continue to vomit - came in Tuesday, 102.6 temp. IV fluids, Cerenia, Baytril injection. Overnight rested comfortably however now shaking, no vomit, no fever, however new heart murmur heard this morning. 4dx negative.

Abnormal PE/Chem/CBC/UA Results: MCH 26.4, MCHC 39.4, Retic 6.2, Lymph 0.63, MPV 14.4, ALKP 350

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			1.1	1.1	39.5	74	0.4
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	0.91		4.8	4.3	

HOSPITAL NAME

Whippany VH

REFERRING VET

Dr. Cordero

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Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented mild thickening, likely consistent with endocardiosis. No evidence of valvular prolapse. Doppler indicated mild primarily eccentric insufficiency. 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. Normal appearance to the aortic valve with normal measured LVOT was present. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. Mild TR was present on Doppler without evidence of clinical pulmonary hypertension. 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,



PATIENT	and diameter (approx. 1:1 pa/ao ratio). Normal measured RVOT velocity was noted. No visible pericardial or free pleura fluid was noted. Possible although not definitive, small soft tissue echo in the area of the heart base and cranial atrial septum potentially within the cranial left atrial lumen measuring 1.3 cm in diameter was noted. The cranial mediastinum and pericardial regions were free of masses in the visible window.
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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 were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The area of the aortic trifurcation was free of pathology.

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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Focal small cortical cyst was present in the left kidney. The left kidney measured 6.0 cm in length. The right kidney measured 6.0 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.5 cm length x 0.63 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 3.1 cm length x 0.39 cm width at the caudal pole.

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 normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. 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, nonorganized, hyperechoic gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammatory criteria was noted. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented mild wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild retained nonshadowing ingesta / chyme was present.

The intestinal walls demonstrated intact wall layering and maintained 1:3 muscularis / mucosa ratio. The mucosa exhibited mildly decreased echogenicity with occasional mucosal speckling. A segmental to



PATIENT	diffuse ileus pattern consisting of mild fluid accumulation in the intestinal lumen was present without obstruction or foreign material.
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BREED	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.
Brittany Spaniel	
SEX	Free Abdomen
MN	Intermittent mesenteric nodes were present. The lymph nodes were essentially isoechoic to adjacent omentum without evidence of peripheral inflammation and maintaining a normal width: length ratio (<0.5). Subtle perilymphatic hyperechoic mesentery was present. No omental masses or evidence of peritoneal effusion / peritonitis was noted.
AGE	
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WEIGHT	ULTRASONOGRAPHIC FINDINGS
50.4 lbs.	<ul style="list-style-type: none"> • Overall normal cardiac structure and function • Mildly thickened mitral valve with mild eccentric MR - suggestive of mitral valve endocardiosis (Stage B1) • Mild TR - no evidence of clinical pulmonary hypertension • Possible although not definitive indistinct to emerging lesion area of heart base / cranial atrial septum, possible artifact • Gastroenterocolitis with possible mild gastric nonobstructive stasis - subjectively acute • Benign hepatopathy • Mild gallbladder debris (non-mucocele) • Mild chronic renal changes
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REFERRING VET	INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS
Dr. Cordero	No overt evidence of endocarditis with suspect mild chronic degenerative mitral valve changes with secondary mild MR/TR. The lack of left atrial enlargement indicates that the risk of MR at this stage is low. No overt indication for cardiac medications is noted. The possible emerging lesion in the area of the heart base and cranial atrial septum is not definitive with potential for artifact. However, given the clinical history of this patient, clotting status, blood cultures if clinically indicated, as well as a sonographic reassessment of the heart in 4 weeks is suggested.
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DATE	Dietary indiscretion / food intolerance, infectious gastroenterocolitis, enterotoxin insult, and less likely occult infiltrative gastrointestinal neoplasia are all potentials without evidence of mechanical obstruction / foreign material. Diarrhea PCR, a GI panel to include PLI/TLI/Cobalamin/Folate, and a resting cortisol level to assess for occult disease, could be considered. Empirical therapy for acute inflammatory bowel episode with continued monitoring is recommended.
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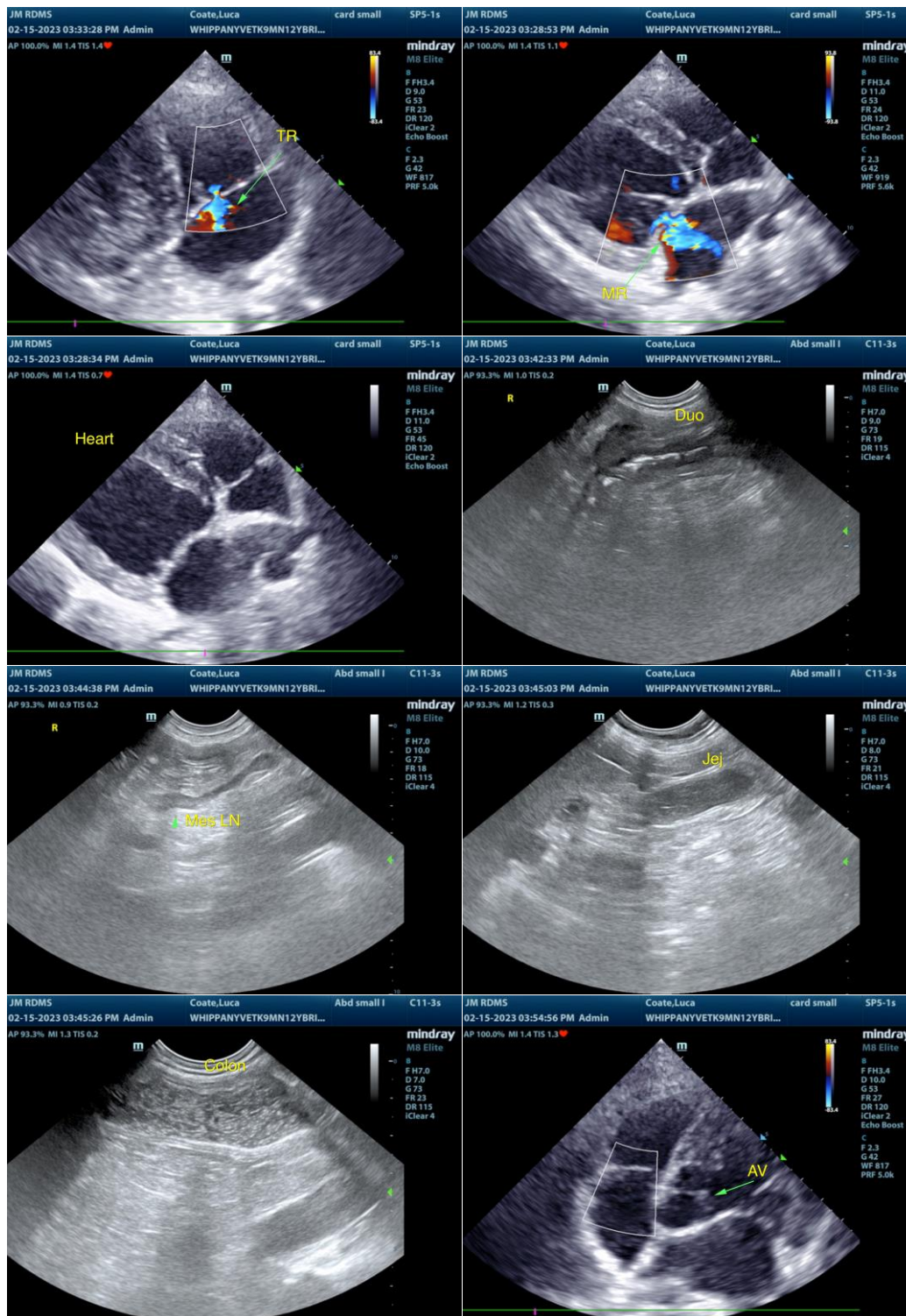
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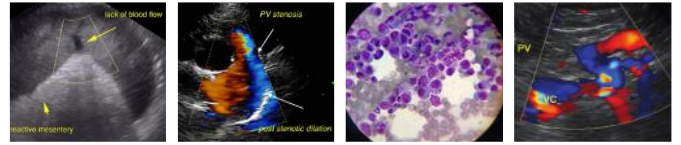
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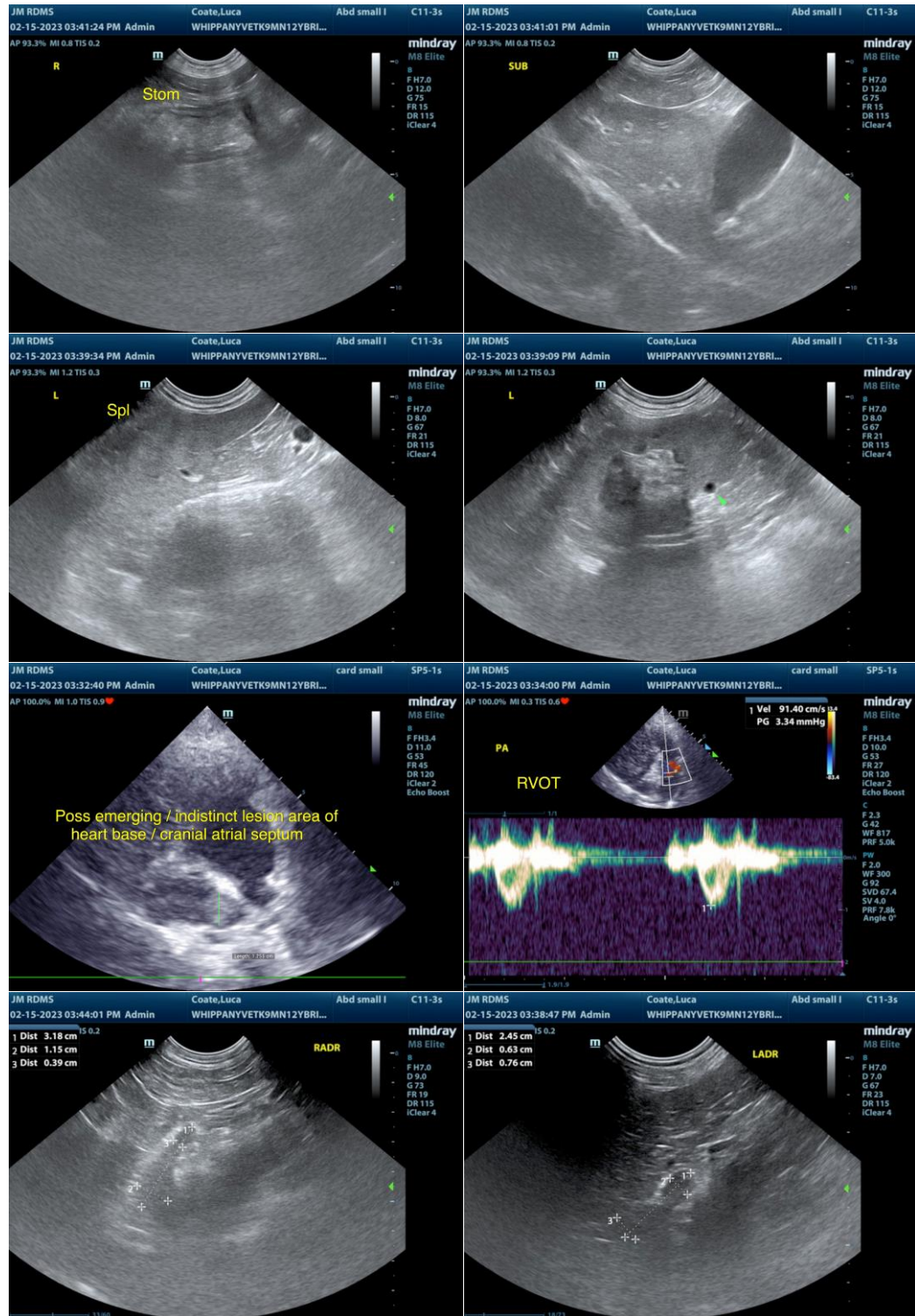
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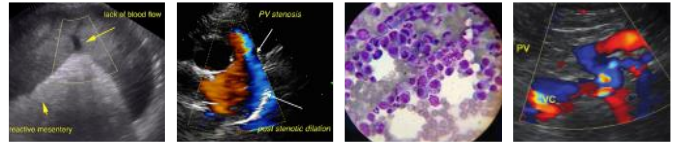
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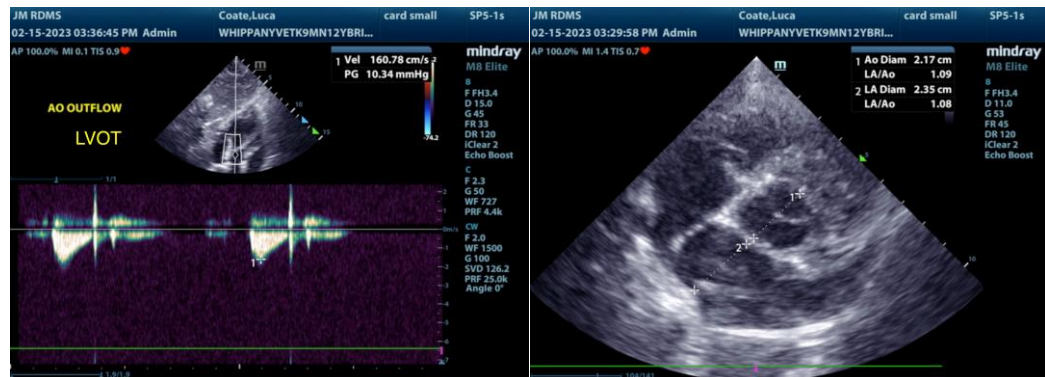
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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