



## PATIENT

Lola Bussov

## SPECIES

Canine

## BREED

Beagle

## SEX

FS

## AGE

7 years

## WEIGHT

30.4 lbs.

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Shari Reffi, CVT

## HOSPITAL NAME

Animal Hospital of  
Sussex County

## REFERRING VET

Dr. Spinks

## INVOICE

16039

## DATE

2/1/23

## PRESENTING CLINICAL SIGNS

Labored breathing, not eating, diarrhea, lethargic. Enlarged abdomen. Current meds: Doxycycline 100mg bid; Cough tab 1/2 bid  
Abnormal PE/Chem/CBC/UA Results: amylase 1423 (1200 H)

## ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
<b>CARDIAC PARAMETERS</b>	<b>VMAX</b> (m/s)	<b>VMAX</b> (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
<b>NORMAL PARAMETER</b>	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
<b>PATIENT</b>			1.3	1.3	52	84	0.21
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
<b>CARDIAC PARAMETERS</b>	(BPM)	<b>VMAX</b> (m/s)	<b>MAX</b> (m/s)	(kg)	2D short axis Base view (cm)	Avg; 2D and m-mode short axis (cm)	Avg; 2D and m-mode short axis (cm)
<b>NORMAL PARAMETER</b>	50-100	0.7-1.7	0.7-1.6				
<b>PATIENT</b>	113	1.5	1.0		3.6	3.6	

### 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. Mild centralized eccentric MR was present on Doppler. 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 adequate linear morphology and kinesis. Minor 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 normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). 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. No arrhythmia was noted.



**PATIENT**

***Urinary System***

Lola Bussow

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 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 was noted.

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Solitary medial iliac lymph node was present yet not consistent with inflammatory or neoplastic criteria. The lymph node was essentially isoechoic to adjacent omentum without evidence of peripheral inflammation and maintaining a normal width: length ratio (<0.5). The lymph node measured 1.4 cm x 0.55 cm.

**SEX**

FS

Normal size and margination were 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. Right kidney small thinly walled cortical cyst was present, which is incidental. The left kidney measured 4.7 cm in length. The right kidney measured 5.4 cm in length.

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***Adrenal Glands***

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 1.8 cm length x 0.48 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 2.2 cm length x 0.63 cm width at the caudal pole.

**INTERPRETED BY**

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***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.

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***Liver/ Gallbladder***

The liver presented subjective mild 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 containing primarily anechoic content with mild, nonorganized, echogenic gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammation was noted. The cystic and common bile ducts were normal.

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***Gastrointestinal***

The stomach presented sonographically normal to intact gastric wall layering with a normal wall layer ratio. The lumen of the stomach contained mild to moderate, variably echogenic, non-shadowing ingesta without signs of obstruction or foreign material. No evidence of pyloric outflow obstruction was noted.



<b>PATIENT</b>	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. Minor nonspecific duodenal mucosal speckling was present.
Lola Bussow	
<b>SPECIES</b>	Normal visible colon wall layers were present with semi-formed to soft fecal matter, consistent with patient history.
Canine	
<b>BREED</b>	<b><i>Pancreas</i></b>
Beagle	The left pancreatic limb was mildly prominent in size with heterogeneous parenchyma and no evidence of peripancreatic omental inflammation.
<b>SEX</b>	<b><i>Free Abdomen</i></b>
FS	No omental masses, lymphadenopathy, or evidence of peritoneal free fluid were noted.
<b>AGE</b>	<b>ULTRASONOGRAPHIC FINDINGS</b>
7 years	<ul style="list-style-type: none"> <li>• Normal cardiac structure and function</li> <li>• Minor MR / TR</li> <li>• Nonshadowing gastric ingesta</li> <li>• Intact enterocolic walls with mild nonspecific duodenal mucosal speckling</li> <li>• Mild prominent to remodeled left pancreas</li> <li>• Subjective mild benign hepatomegaly, mild gallbladder debris (non-mucocele)</li> <li>• Benign mild focal medial iliac lymphadenopathy</li> </ul>
<b>WEIGHT</b>	
30.4 lbs.	
<b>INTERPRETED BY</b>	<b>INTERPRETATION OF THE FINDINGS &amp; FURTHER RECOMMENDATIONS</b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	No evidence of structural or functional cardiomyopathy was noted. The mild MR / TR is of minimal hemodynamic significance without evidence of LA enlargement or evidence of clinical pulmonary hypertension. The cardiac presentation indicates that the labored breathing in this patient is noncardiogenic in origin. No indication for cardiac medications. Possible early onset degenerative mitral valve changes. Sonographic monitoring with an initial recheck echocardiogram is suggested in 6-12 months.
<b>IMAGING PERFORMED BY</b>	
Shari Reffi, CVT	
<b>HOSPITAL NAME</b>	
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<b>REFERRING VET</b>	Overall, no evidence of significant abdominal visceral pathology was evident. Dietary intolerance / food allergy, dysbiosis, inflammatory bowel disease, occult parasitism, low-grade / chronic pancreatitis, and less likely infiltrative intestinal neoplasia are all potentials for the diarrhea. A GI panel to include PLI/TLI/Cobalamin/Folate is recommended. Potential mild nonobstructive gastric stasis could be possible if documented NPO. As-needed gastrointestinal support, hydrolyzed diet trial, high colony count probiotic, empirical cobalamin supplementation pending assessment of cobalamin levels, broad spectrum deworming i.e., Panacur 50 mg/kg PO SID for at least 5 consecutive days and assessment of gastrointestinal response may prove beneficial.
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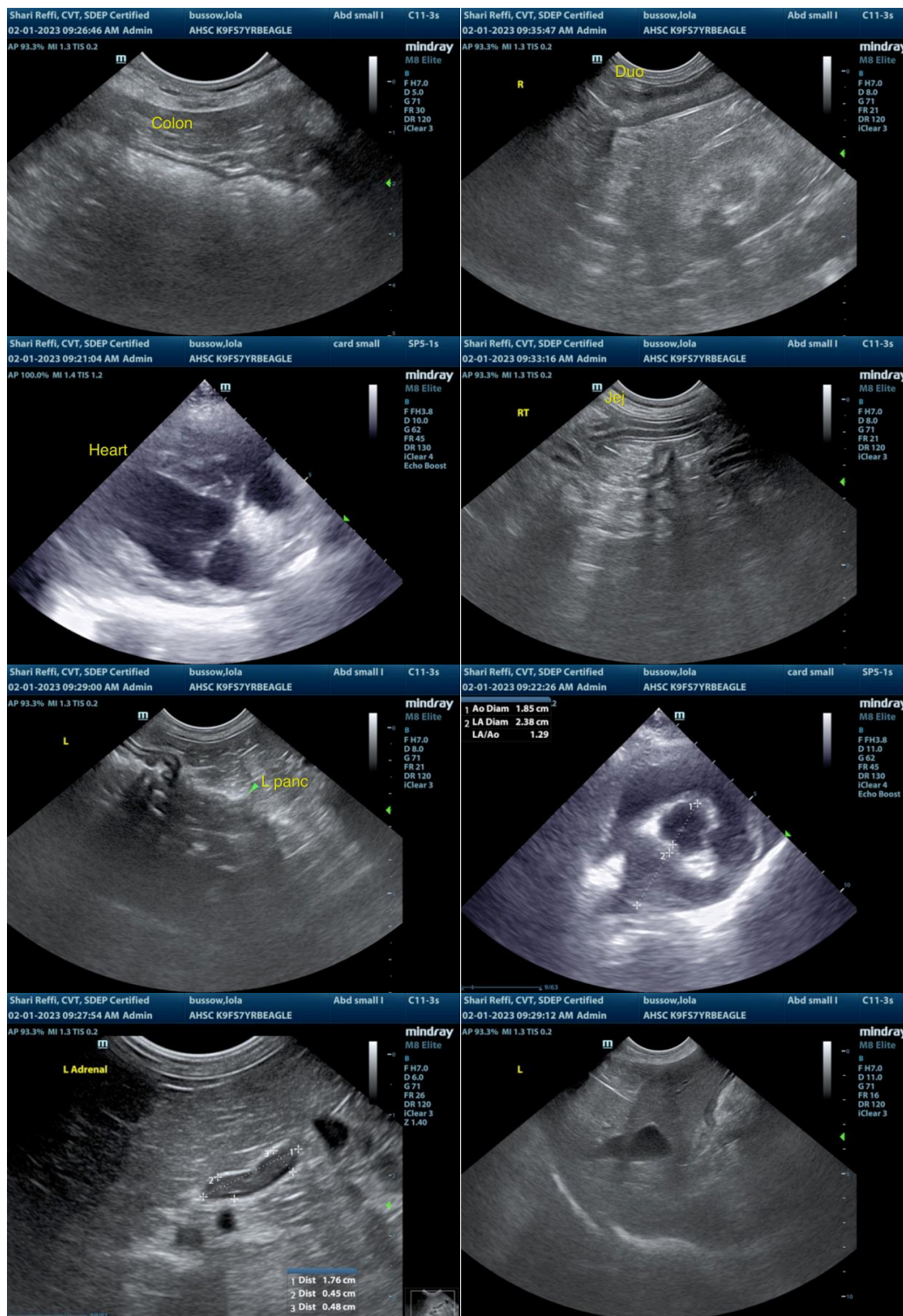
Dr. Spinks

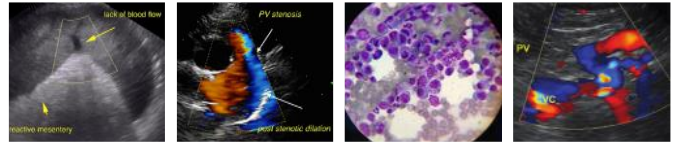
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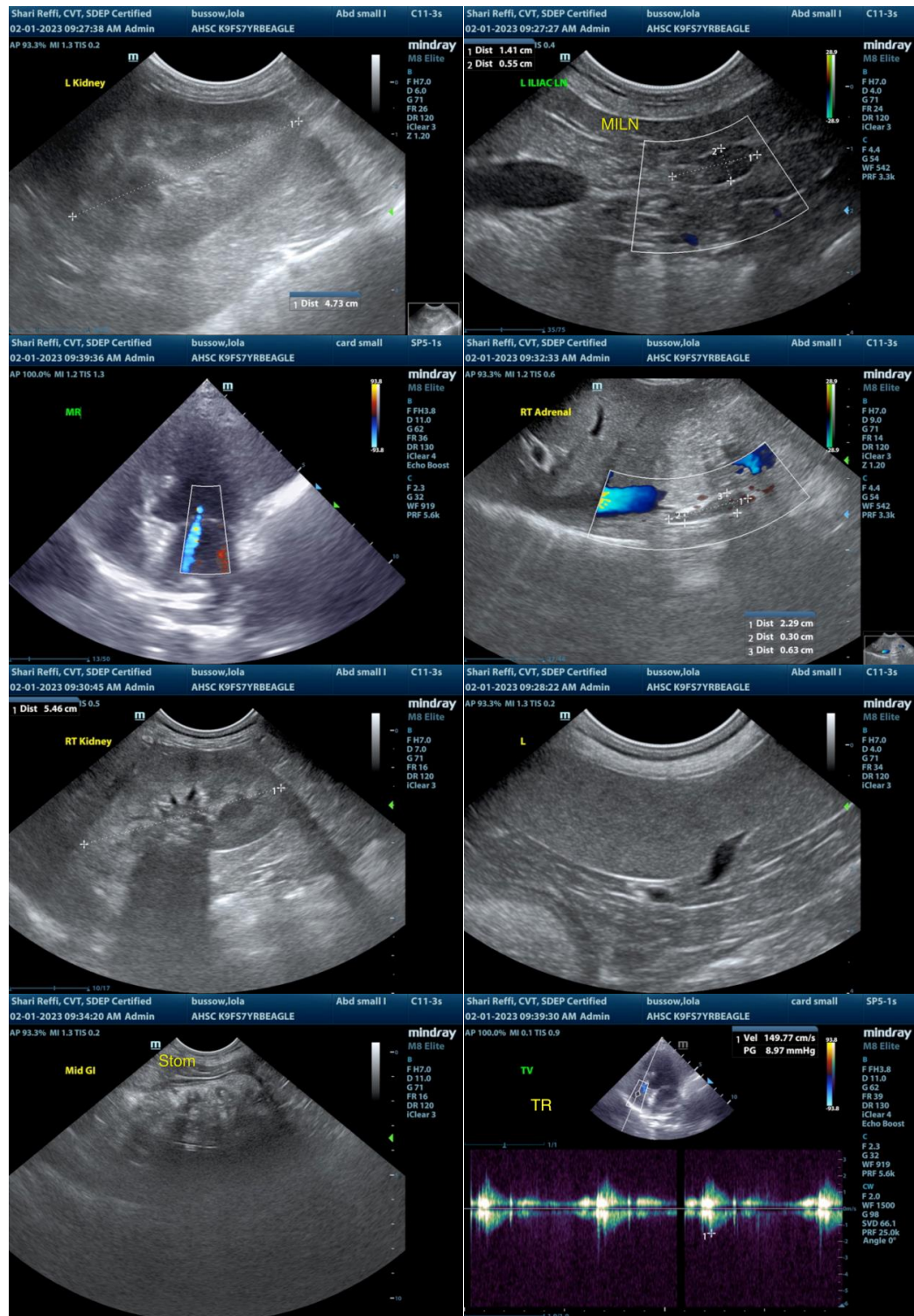
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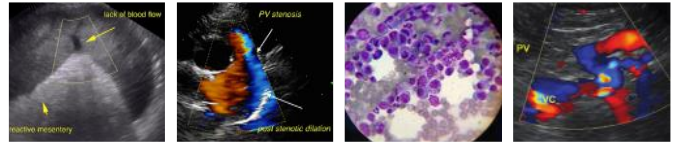
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology



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**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)**  
**info@SonoPath.com**