**PATIENT**

Maverick Lint

**SPECIES**

Canine

**BREED**English Springer  
Spaniel**SEX**

MN

**AGE**

5.5yr

**WEIGHT**

48.5lb

**INTERPRETED BY**R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)**IMAGING  
PERFORMED BY**

Rachel Runnells RVT

**HOSPITAL NAME**

SVS Imaging KC

**REFERRING VET**

Dr. Taylor

**INVOICE**

12443ag

**DATE**

12/16/2022

**PRESENTING CLINICAL SIGNS**

Recently diagnosed diabetic. Had been ADR and PU/PD. O wanted to screen and make sure there was nothing else that could be causing symptoms, or wrong in addition to the diabetes.

Abnormal PE/Chem/CBC/UA Results: Some previous liver abnormalities on bloodwork. Rest of bloodwork normal. ACTH stim and thyroid testing normal.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART**

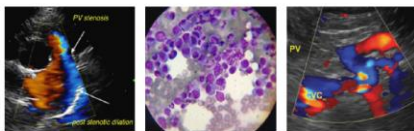
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT				1.3	35	65	0.3
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base 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	94	1.7	1.3		3.6	3.8	

**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. Minor eccentric MR on color 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. 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). Minor pulmonic insufficiency noted on Doppler. 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 to a depth of 3 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or

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sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

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Canine

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. The left kidney measured 7.1 cm in length. The right kidney measured 7.6 cm in length.

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Spaniel

The area of the aortic trifurcation was free of pathology.

The area of the residual prostate appeared normal and free of pathology.

**Adrenal Glands****SEX**

MN

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.59 cm width at the caudal pole and 0.44 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 0.58 cm width at the caudal pole and 0.71 cm width at the cranial pole.

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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**

The liver exhibited generalized enlargement with symmetrical contour and mild mixed echogenic parenchyma. No masses or nodules noted. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

**INTERPRETED BY**R. McKenzie Daniel,  
DVM, DABVP  
(Canine and Feline)**Gastrointestinal**

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.

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.

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

**Pancreas**

The pancreas exhibited variable enlargement with variably echogenic to non-homogeneous parenchyma. Minor capsule asymmetry was noted.

**Free Abdomen**

No peritoneal effusion was present.

Generalized mid to cranial abdominal mild hyperechoic mesentery was present along with suspect intermittent benign/reactive mildly non-homogeneous mesenteric lymphadenopathy.

**ULTRASONOGRAPHIC FINDINGS****DATE**

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- Normal cardiac structure and function
- Minor MR
- Minor pulmonic insufficiency
- Diabetic hepatopathy pattern
- Variably prominent to non-homogeneous pancreas
- Mid to cranial abdominal mild hyperechoic mesentery and suspect intermittent benign/reactive mesenteric lymphadenopathy

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of structural or functional cardiomyopathy was present. The mild MR and pulmonic insufficiency are not considered clinically significant. No indication for cardiac medications.

The pancreatic presentation may suggest mild mixed pattern pancreatic inflammation. The potential for mild mid to cranial abdominal secondary reactive mesentery or steatitis is possible. No evidence of intra-abdominal neoplastic criteria was present.

A urine C/S on a sterile urine sample is recommended especially if there is evidence of glucosuria.

A GI panel to include PLI/TLI/Cobalamin/Folate may be considered for further assessment of the pancreas as well as assessment for occult intestinal disease as a contributing factor.

Assuming normal clotting status and using a 25g needle, a hepatic FNA for screening cytology is warranted for further assessment especially if persistent/progressive hepatic enzyme elevations although the overall hepatic presentation is suggestive of benign hepatomegaly/hepatopathy.

**INTERPRETED BY**

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(Canine and Feline)

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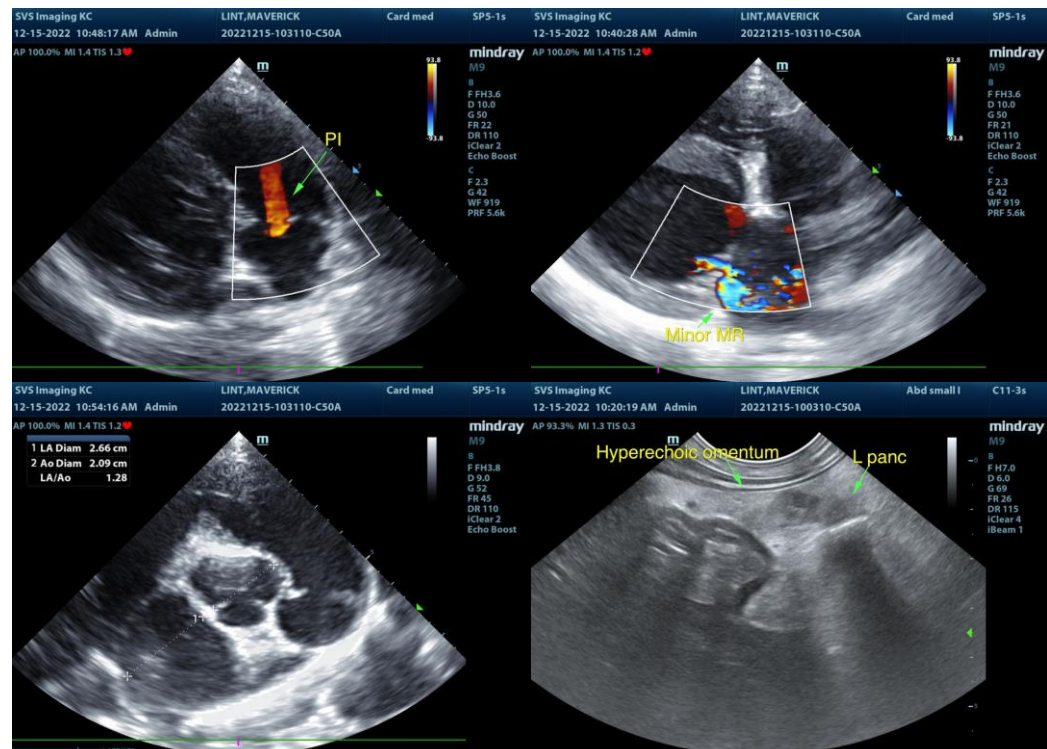
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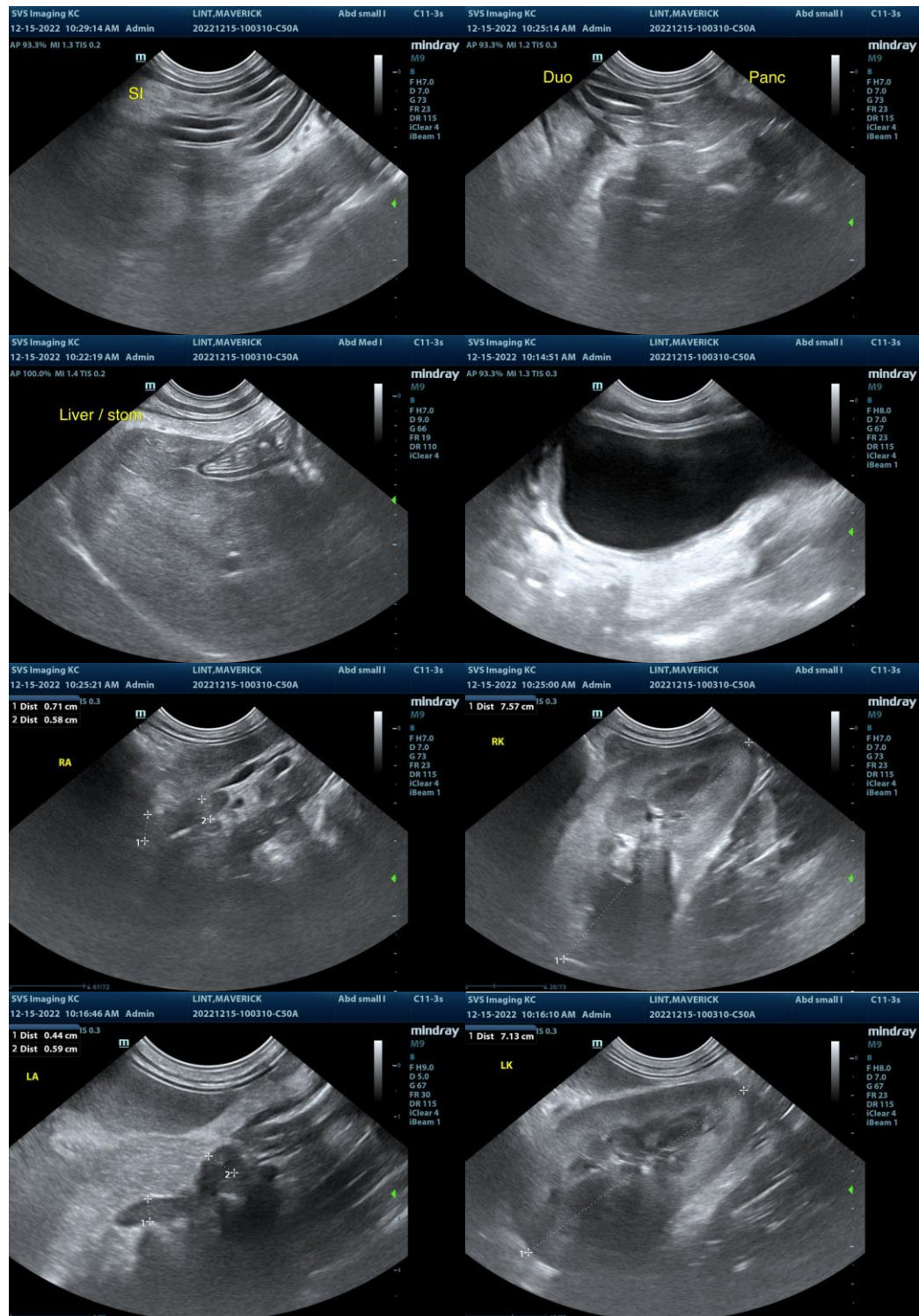
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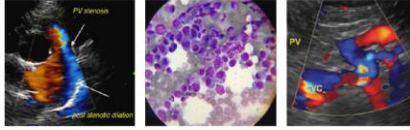


The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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**Clinical Sonography & Telectology**

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