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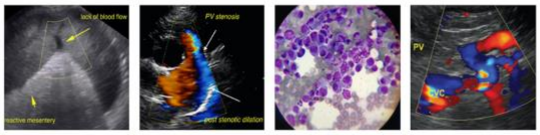

SonoPath
Clinical Sonography & Telecytology
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1-800-838-4268 info@sonopath.com SonoPath.com

PATIENT

Levi Hulshizer

SPECIES

Feline

BREED

Domestic Shorthair

SEX

Neutered Male

AGE

2009

WEIGHT

12.7 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Rebekah Jakum, CVT ARDMS/RVT

HOSPITAL NAME

Community VP

REFERRING VET

Dr. Hulshizer

INVOICE

14123

DATE

2/28/22

PRESENTING CLINICAL SIGNS

History: LOOSE STOOL, WEIGHT LOSS VITAMIN B12, DEPO INJ, TYLAN, RC GI+HP DIET

Labs: WBC 21.1 with neutrophilia, Unremarkable chemistry panel, cobalamin 269

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

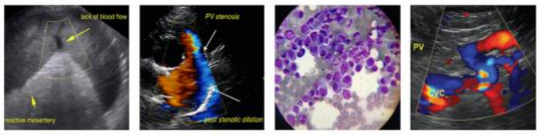
FELINE CARDIAC PARAMETERS	**BODY WEIGHT** (kg)	**HR** (BPM)	**IVSd** (cm)	**LVIDd** (cm)	**LVWd** (cm)	**FS** (%)	**EF** (%)
NORMAL PARAMETER	------	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT	--	NM	0.5	1.5	0.5	46	80.8
FELINE CARDIAC PARAMETERS	**LA/AO** (Boon)	**LA/AO HEART BASE** (Sisson)	**LA** 2D 4-chamber long axis AS to FW (Sisson) (cm)		**LVOT VEL.** (m/s)	**RVOT VEL.** (m/s)	**IVRT** (m/)
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7		<1.6	<1.3	40-60
PATIENT	1.1	--	1.4		NM	NM	NM
Adapted from June Boon,Veterinary Echocardiography,1998 Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate LA measurements. The cranial and caudal **mitral** valve leaflets presented normal linear structure and kinetics. The **left ventricle** presented normal 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 and angles of the myocardium. The **left ventricular outflow** tract demonstrated subjective normal structural integrity yet mildly prominent to potential mildly dilated aortic root and proximal aorta, measuring 1.0 cm in diameter. 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 and kinetics. 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 or extra cardiac pathology in the visible planes. The cranial **mediastinum and pericardial 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 3.0 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 were noted. Aortic trifurcation was normal.



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Normal size and margination was 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. The left kidney measured 4.3 cm in length. The right kidney measured 4.6 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 0.26 cm.

The area of the right adrenal gland was free of pathology.

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. The spleen measured 1.0 cm in width. Potential for borderline splenomegaly, owing to sedation.

Liver

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 with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was contained a mild amount of retained anechoic fluid. The gastric body wall measured 0.24 cm.

The small intestine presented intact wall layering with segmental propensity for mildly prominent muscularis layer, primarily in the jejunum and ileum. No evidence of loss of intestinal wall layering or intestinal masses noted. The duodenum wall measured 0.30 cm. The jejunum wall measured 0.25 cm. The ileocolic wall measured 0.36 cm.

The visible colon was normal yet exhibiting generalized distention with soft to non-formed feces, consistent with reported loose stool.

Pancreas

The pancreas was normal in size and contour. Subtle, primarily uniform hypoechoic parenchyma compared to adjacent omentum was present.

Free Abdomen

Subtle evidence of periileocecocolic reactive mesentery noted. No evidence of significant lymphadenopathy. Small pocket of scant free fluid was noted around the caudal liver margins, given the normal albumin levels, this is likely owing to sedation.

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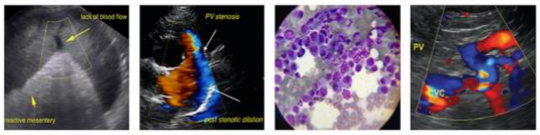

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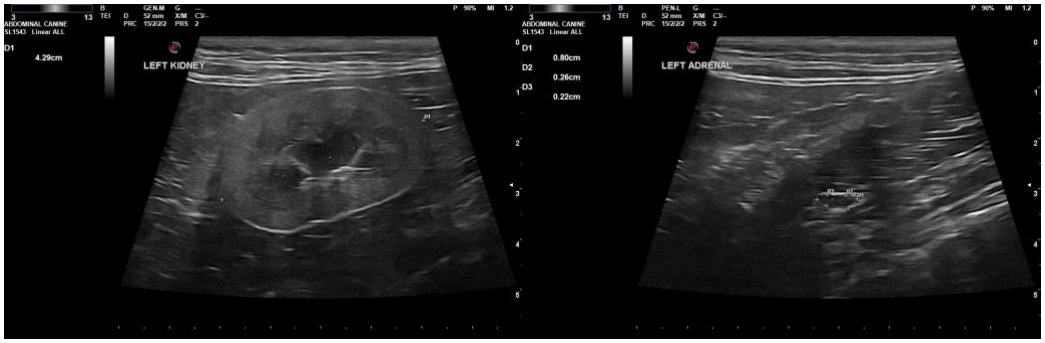
ULTRASONOGRAPHIC FINDINGS

- Overtly normal cardiac structure and function (in light of sedation)- no evidence of significant structural or functional cardiomyopathy
- Subjective, mild prominent aortic root/proximal aorta- nonspecific
- Mild chronic renal changes
- Mild segmental IBD intestinal pattern
- Subtly hypoechoic pancreas- minor pancreatic edema, owing to sedation. Potential for low-grade inflammation possible.
- Mild hypomotile stomach

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No evidence of overt pericardial disease, such as tumors or effusion, etc. The mildly prominent aortic root to proximal aorta is of unclear clinical significance and likely incidental with potential for age-related/patient variant or mild proximal aortic dilation secondary to sedation. No overt evidence of aortic aneurysm or other pathology. No indication for cardiac medication.

Potentially, corticosteroids may be suppressing intestinal mural changes, however, the overall impression of the small intestine is consistent with likely chronic inflammatory enteropathy. Neoplastic infiltrative enteropathy is considered a less likely differential diagnosis given the lack of lymphadenopathy yet cannot be definitively excluded. Intestinal biopsies would be required for a definitive diagnosis. Continued IBD therapy with cobalamin supplementation would be reasonable empirically.



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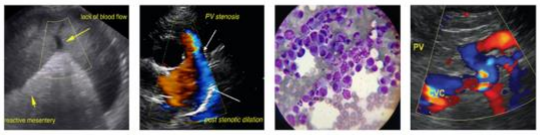

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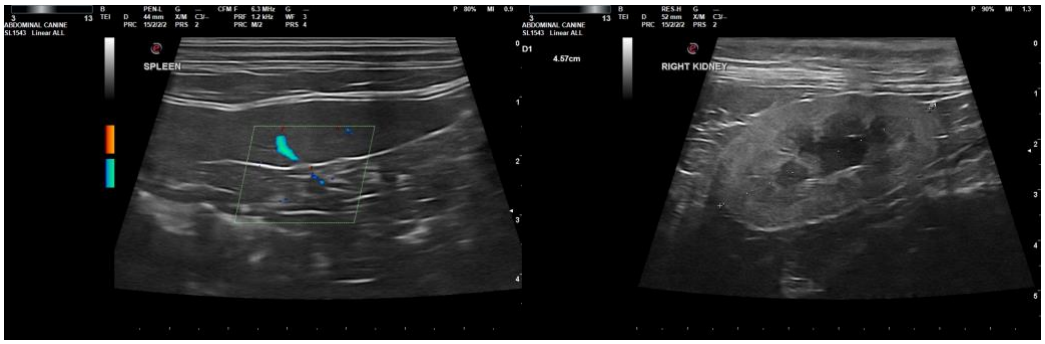

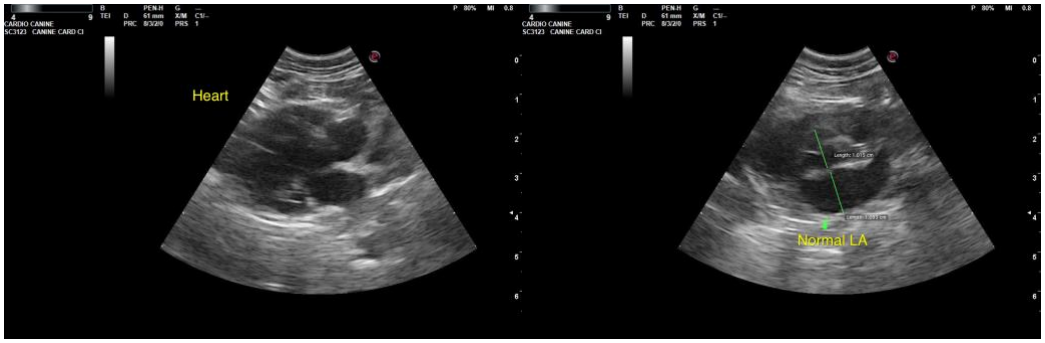

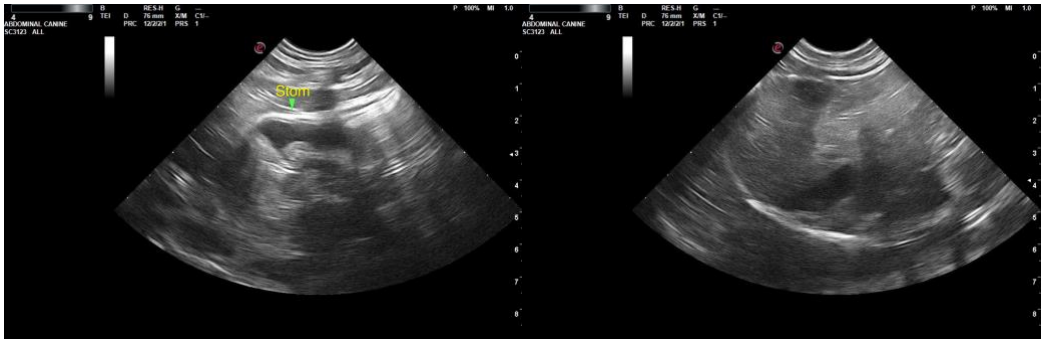

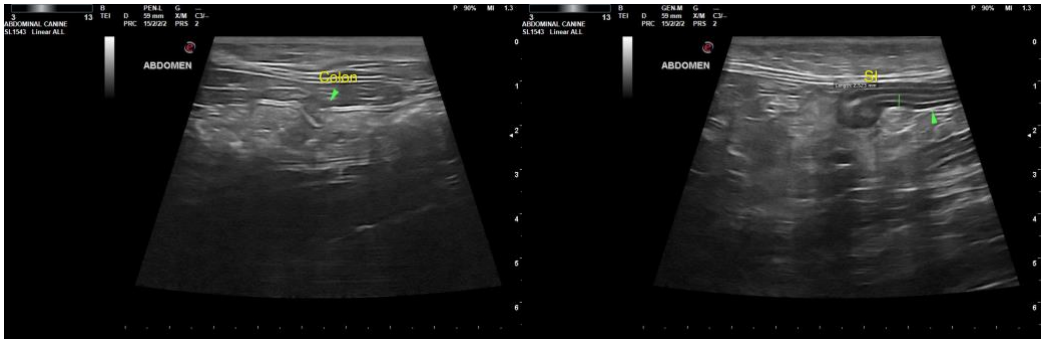

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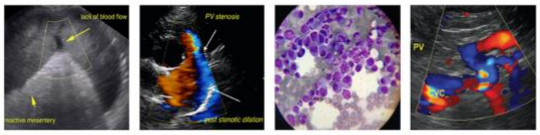

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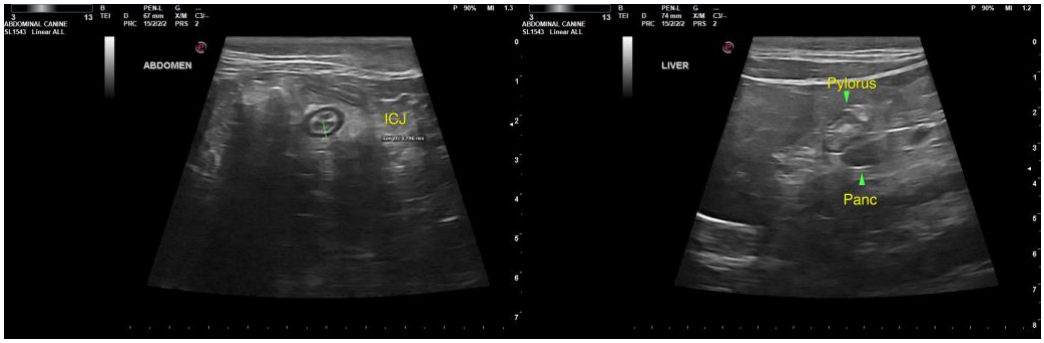

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
mac.daniel@sonopath.com