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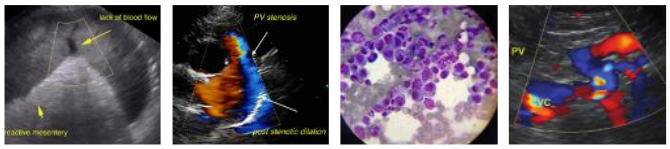


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Tyler Mundhenk

SPECIES

Feline

BREED

DSH

SEX

Neutered Male

AGE

14 Years

WEIGHT

11.7 Lbs.

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Long Valley AH

REFERRING VET

Dr. Welch

INVOICE

13823

DATE

2/7/22

PRESENTING CLINICAL SIGNS

History: increased thirst, hunger and 1# wt loss in the last 5-6 months - is underweight. Vomits once every 2 weeks. Possible low-grade murmur 1-2/6 (left sided PMI)

Abnormal PE/Chem/CBC/UA Results: RBC 6.81, Hgb 10.2, basophils 152; Phos 2.7, TT4 1.9, Pro BNP 33; UA: pH 5.5, rest wnl; USPG 1.019

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	--	186	0.54	1.19	0.61	53	87
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	--	1.47	--		1.00	.70	NM

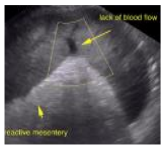
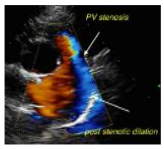
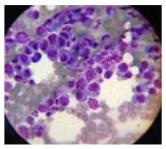
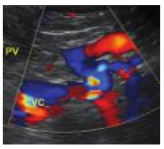
Adapted from June Boon,Veterinary Echocardiography,1998
Sisson D et al. JVIM 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705

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 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 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, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine

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was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal. The pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some mild age-related loss of curvilinear patterns regarding the capsule and C/M junction. The cortices presented largely uniform texture with some increased echogenicity expected for his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The right kidney measured 3.55 cm. The left kidney measured 3.96 cm.

Adrenal Glands

The **right adrenal gland** was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 0.27 cm.

The region of the **left adrenal gland** revealed no evident pathology.

Spleen

The **spleen** was mildly enlarged with uniform, but subtly micronodular parenchyma, and undulating capsular contour. This is consistent with reactive spleen owing to immune stimulus or early infiltrative disease such as mast cell disease or lymphoma. 25-gauge FNA would be ideal if weight loss is an issue to differentiate early round cell neoplasia versus splenitis or reactive spleen all of which can present in this manner.

Liver

The **liver** revealed slight coarse architecture and minor increased portal markings. No evidence of significant disruptive disease. The gallbladder and common bile duct were unremarkable.

Gastrointestinal

The **gastrointestinal tract** revealed minor variable thickening and echogenic submucosal changes most consistent with low grade end result of chronic GI disease such as IBD and may be related to malassimilation of nutrients if any weight loss is present. The pylorus revealed minor muscularis hypertrophy. No obvious neoplastic patterns were noted and luminal content as unremarkable. This is a minor change.

Pancreas

The **pancreas** revealed coarse architecture and undulating capsule. Subxiphoid palpation warranted to assess for any discomfort. This is likely an age-related change, however, low-grade inflammation is possible. Minor heterogenous changes were noted in the right limb of the pancreas.

Free Abdomen

The mesenteric **lymph nodes** (1.0 cm x 0.4 cm) presented normal length to width ratio with slight, swollen contour. There was no loss of parenchymal detail. This is most consistent with reactive lymphadenitis or lymphatic hyperplasia.

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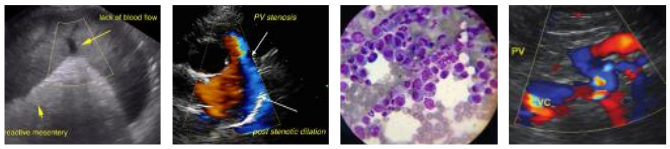

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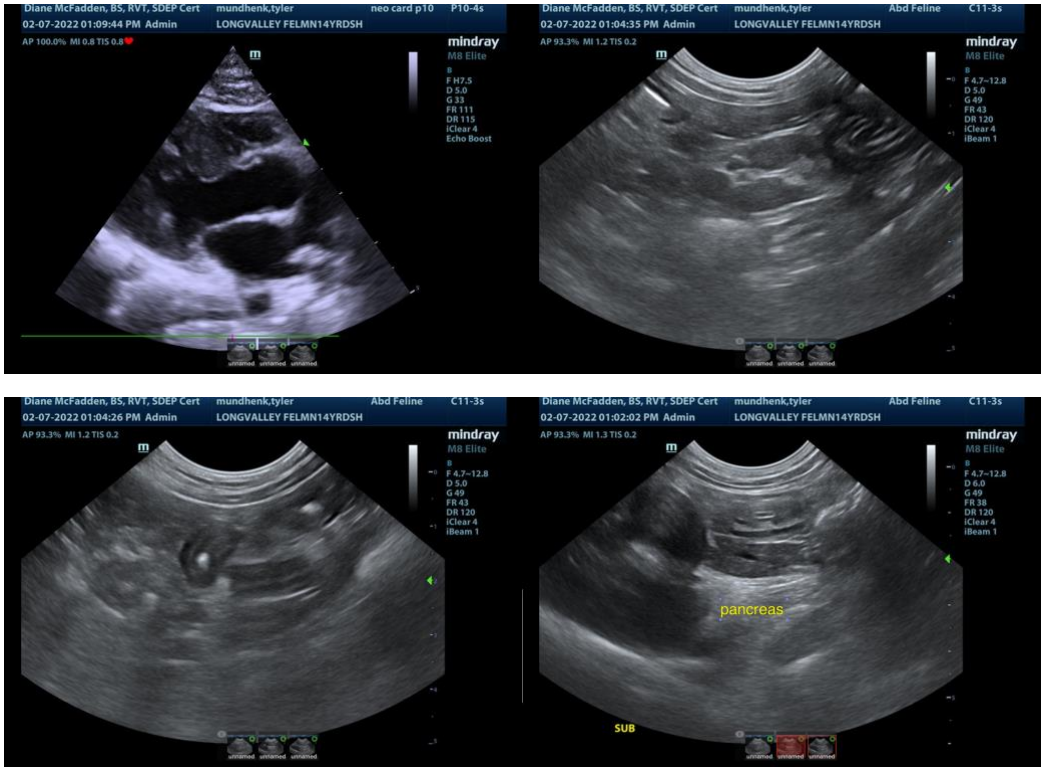
ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram
- Diffuse intestinal thickening
- Spleen, scalloping contour
- Liver, minor increased portal markings and coarse architecture
- Pancreas, coarse architecture and undulating capsule
- Age-related renal changes
- Reactive mesenteric lymph nodes

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Full thickness GI biopsies would be necessary for further definition, however, no overt neoplastic criteria present. Splenic FNA could be considered to ensure this is not representative of an early neoplastic process as opposed to a more likely reactive state. Chronic triad presentation. Given the weight loss, malassimilation may be an issue. Underlying emerging round cell neoplasia possible yet not evident. Maldigestion panel, three view chest radiographs and full CNS examination is recommended to examine for occult disease that could be responsible for the weight loss. Evaluation for competitive eating environments should also be considered.



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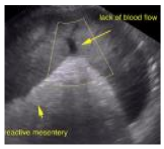
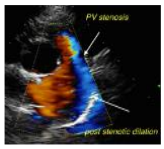
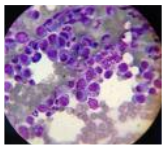
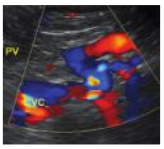

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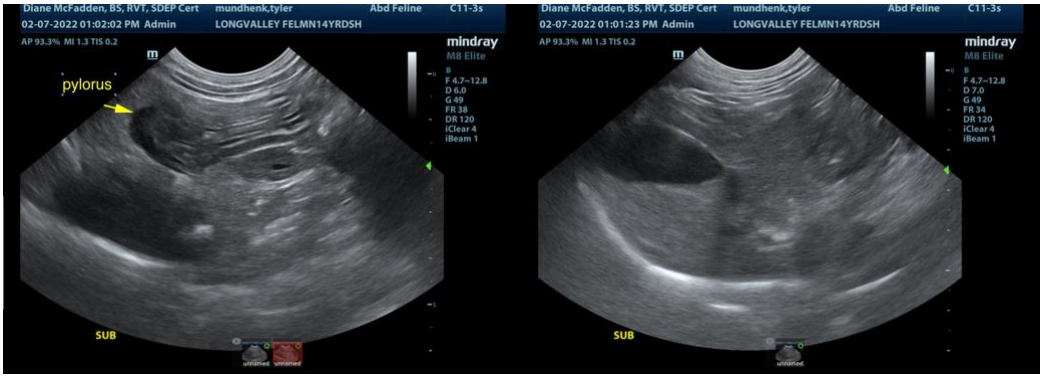

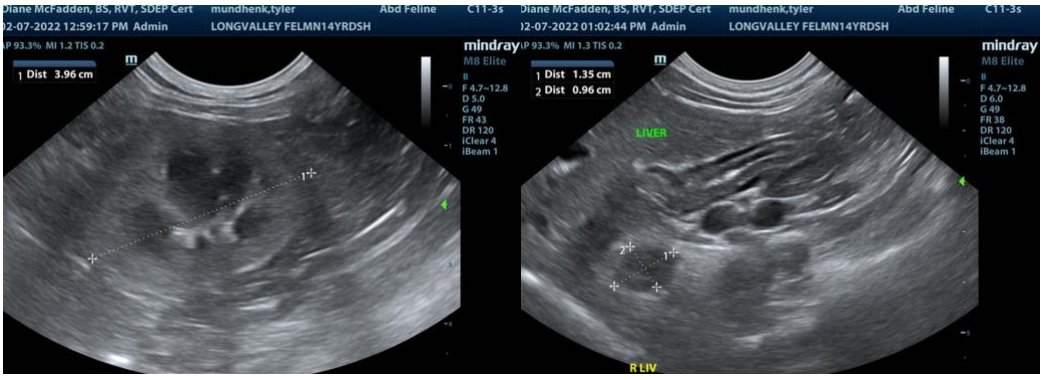

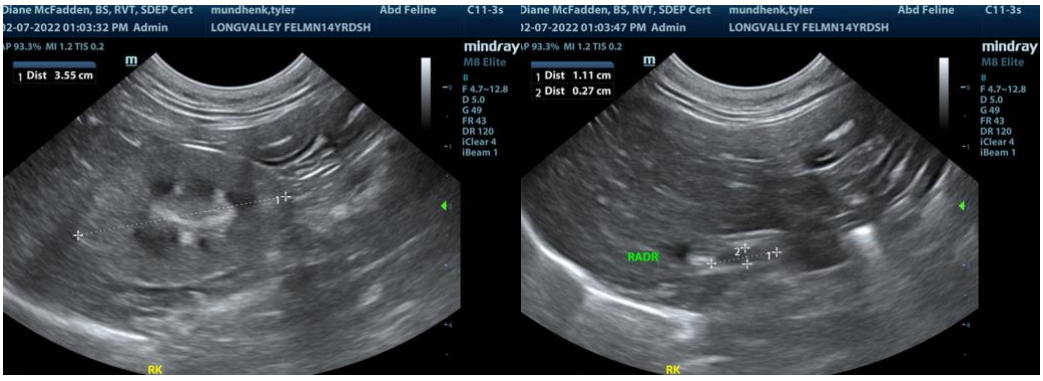

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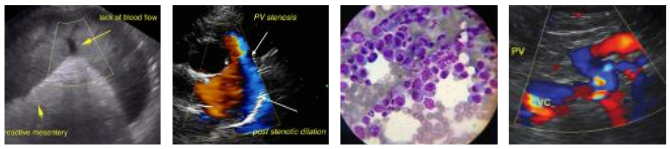

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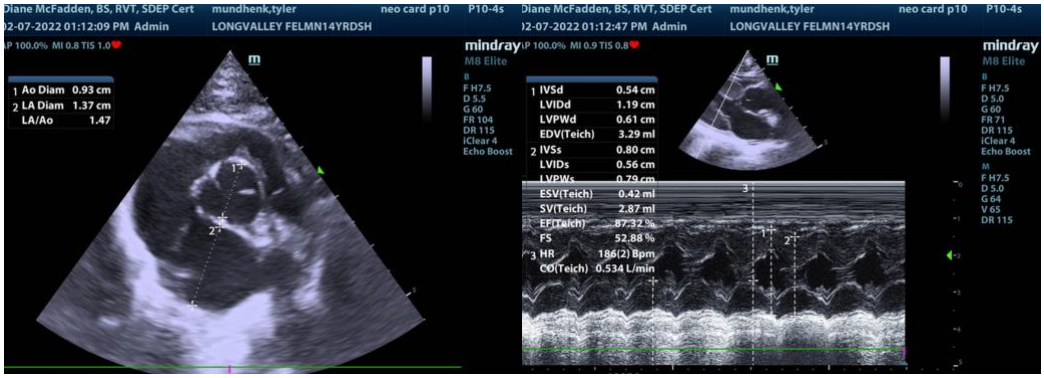

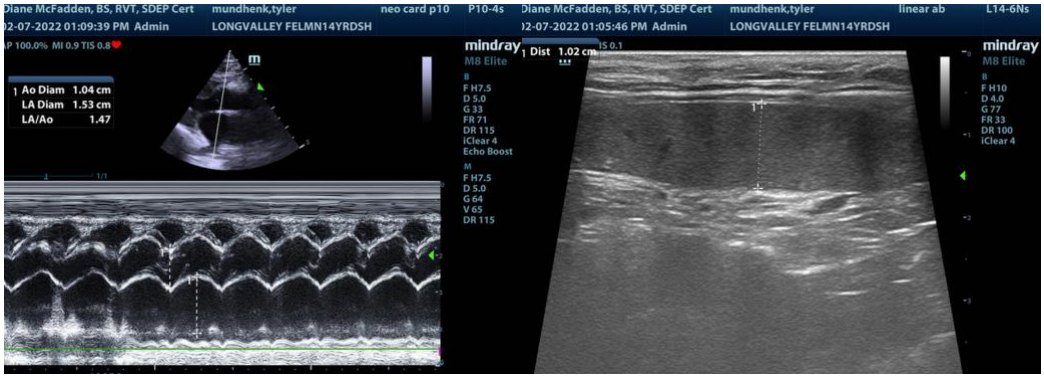

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com