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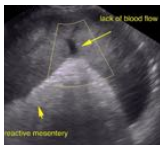
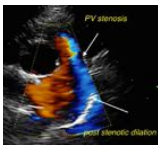
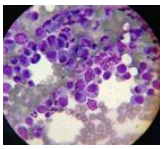
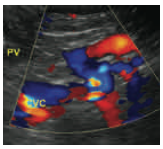

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1-800-838-4268 info@sonopath.com

PATIENT
Mama Cat Washam

SPECIES
Feline

BREED
Domestic Longhair

SEX
Spayed Female

AGE
13 years

WEIGHT
8.6 lbs

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Jessica Miller, RDMS

HOSPITAL NAME
Blairstown AH

REFERRING VET
Dr. Clegg

INVOICE
96993

DATE
3/16/22

PRESENTING CLINICAL SIGNS

History: FIV+, HCM, PPHx 2020 potential emerging lymphoma. Presents for lethargy and anorexia
Abnormal PE/Chem/CBC/UA Results: Neut 64000, IRIS stage III CKD, ALT 182 UA SG: 1.012

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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 was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** revealed largely normal size and structure, corticomedullary definition and ratio (cortex 1/3 of medulla) were essentially maintained with some 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 this age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. Corticomedullary mineralization was noted. The right kidney measured 3.32 cm. The left kidney measured 4.23 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having largely normal shape, size, position and acceptable echogenicity for this age group and breed. Some heterogeneity was noted within the adrenal parenchyma without concerning capsular distortion. These changes are likely age related but should be monitored by sonogram should the patient be suspected of having adrenal disease. The left adrenal gland measured 0.5 cm. The right adrenal gland measured 0.33 cm.

Spleen

The **spleen** under high resolution revealed subtle micronodular changes. The splenic width was normal at 0.8 cm.

Liver

The **liver** was diffusely hyperechoic to the falciform fat with multi-focal, hypoechoic nodular changes that were non-disruptive. Slightly increased portal markings were noted. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

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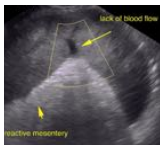
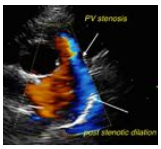
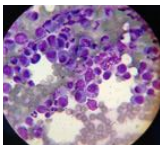
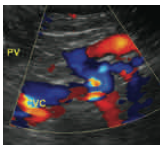

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Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Some parenchymal remodeling, however, with mild deviation from curvilinear normalcy was observed. Pancreatic duct and capsular irregularities were present consistent with age related changes. If pain upon imaging (+ Murphy sign) was present or if the patient is focally painful in subxiphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART

The echocardiogram in this patient demonstrated normal **left atrial** size and structure with no evidence of "smoke" or thrombi. **Mitral** valve insufficiency was noted and measured at 4.0 m/sec. The **left ventricle** presented normalized wall thicknesses. The **myocardium** presented essentially normal echogenicity without immediate signs of fibrotic or ischemic disease. **Contractility** of the ventricular walls was considered excessive for this patient evidenced by the elevated fractional shortening measurement. The **left ventricular outflow** tract demonstrated turbulent laminar flow. Subjective assessment of the **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. Trivial **tricuspid** insufficiency was noted. The **right ventricle** was of normal size with normal chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed normal valve structure, laminar flow, and diameter. No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The **mediastinum** was free of masses in the visible window. Multi-focal, hypoechoic

FELINE CARDIAC PARAMETERS	BODY WEIGHT	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	8.6 lbs	183	0.51	1.25	0.48	69	96
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	1.28	1.33	4.3 max		1.17	1.12	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

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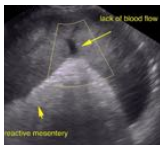
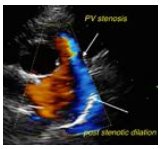
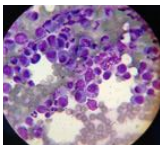
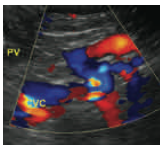

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ULTRASONOGRAPHIC FINDINGS

Normalized left ventricular wall with persistent mitral insufficiency.

Age related renal changes.

Nodular hepatic changes.

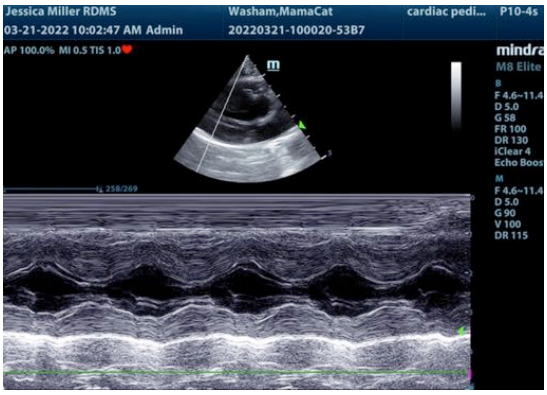
Micronodular spleen.

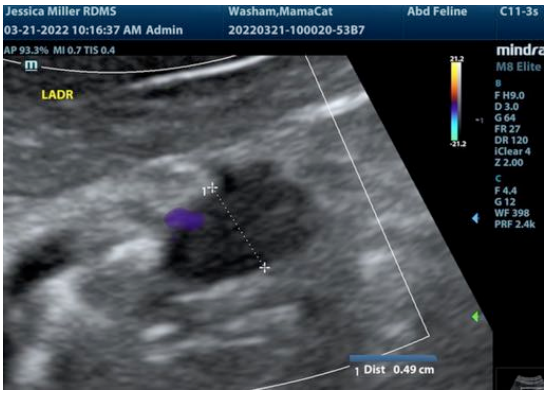
Age related pancreatic changes.

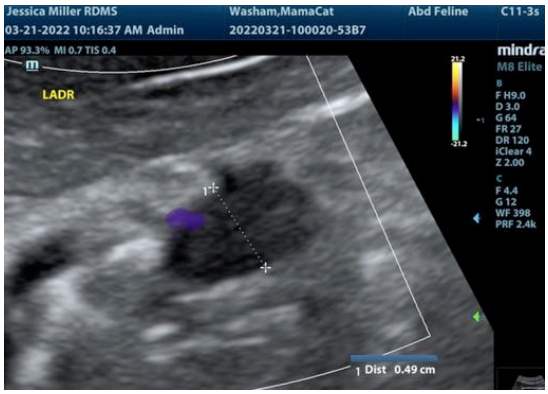
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

If weight loss is an issue and/or liver enzyme elevations are an issue. FNA of the general liver, nodular change and spleen is indicated. The kidneys do not appear end stage. Periodic passage of calculi may be playing a role in this patient.

There was no evidence of clinical cardiac disease. Systemic effects on the prior echocardiogram are likely playing a role in the left ventricular hypertrophy such as hyperthyroidism, hypertension or volume contraction causing pseudohypertrophy.







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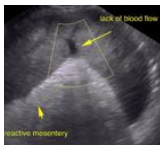
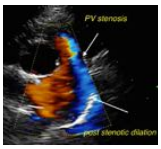
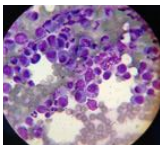
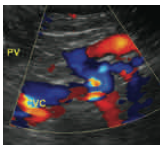

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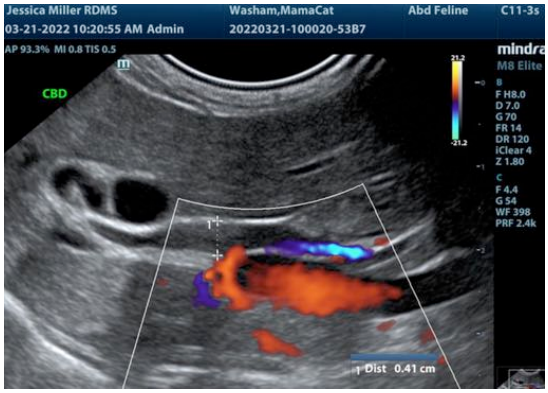

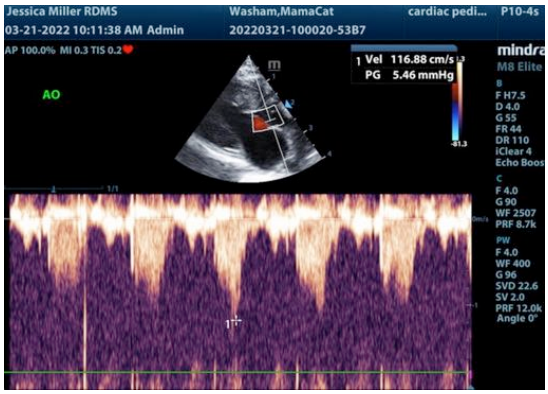

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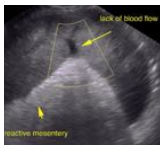
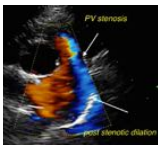
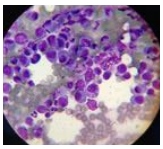
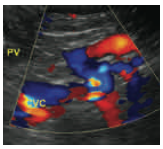

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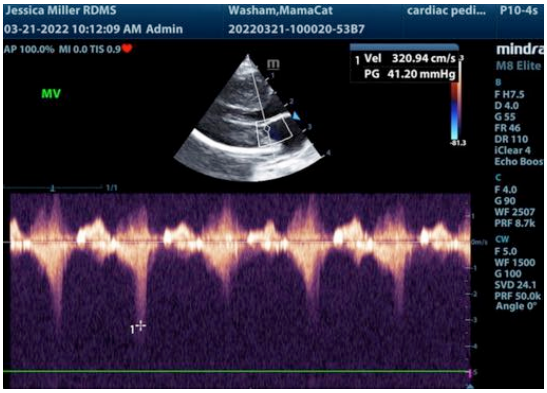

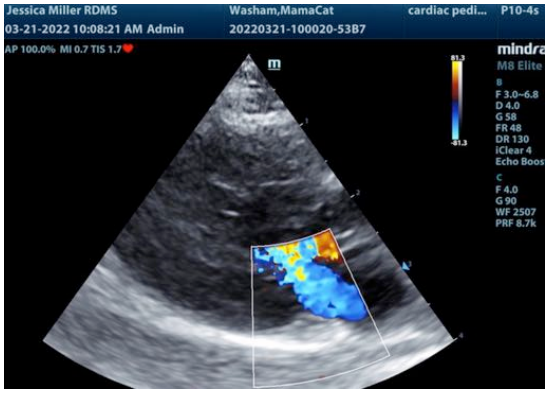

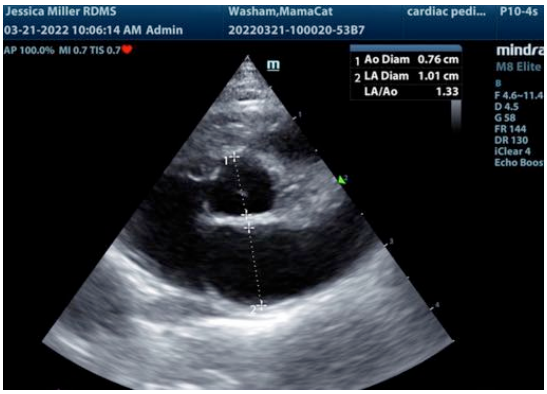

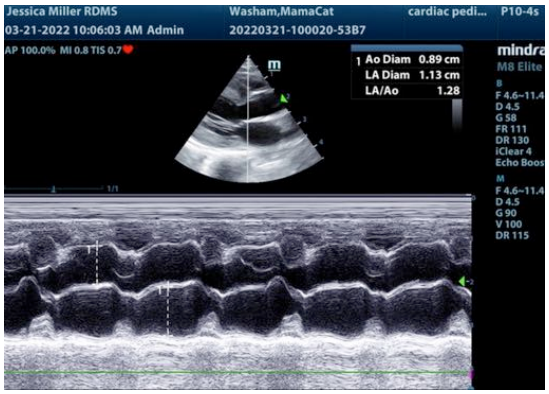

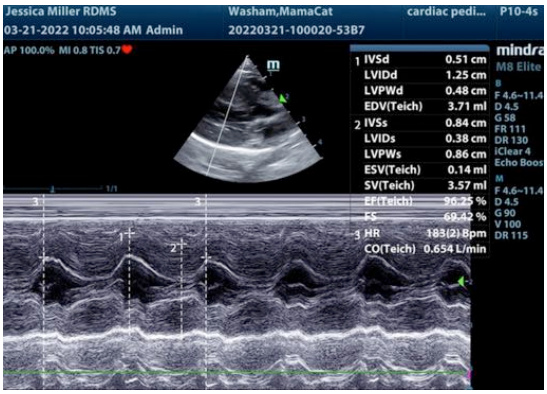

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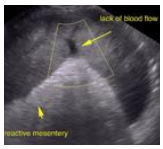
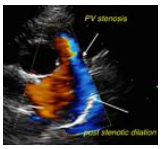
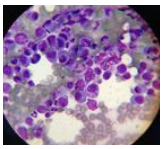
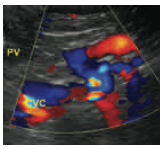

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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