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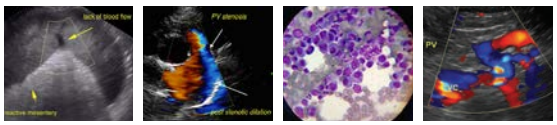


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT
Gus Nicholson

SPECIES
Feline

BREED
DLH

SEX
Neutered Male

AGE
13 Years

WEIGHT
10.9 Pounds

INTERPRETED BY
Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Jenna Walsh, CVT

HOSPITAL NAME
Creekside Vet Clinic

REFERRING VET
Dr. Eggert

INVOICE
40620

DATE
8/19/22

PRESENTING CLINICAL SIGNS

Eating less x1yr. Lost 2# since in 4/22. 3/6 sternal murmur. Tachypnea w/respiratory rate of 90. Excessively lethargic. Yesterday P was frequently vomiting. Administered Cerenia which has stopped the vomiting but P unwilling to eat. Elevated T4 Current Medications Cerenia 16mg 1/4T PO SID. Radiographic Findings N cardiac silhouette. Lungs + abdomen N (read by radiologist). Primary Question/Differential to Be Answered in This Exam Reason for weight loss, lethargy and tachypnea.

Abnormal PE/Chem/CBC/UA Results: Chem + CBC WNL. TT4 6.5.

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

Electrocardiogram (lead II - AliveCor)

Sinus rhythm with a heart rate 205 bpm. P wave at high end of normal reference range in width and height. The echocardiogram will confirm left and right atrial size.

No abnormalities noted with the PR interval, QRS or T waves.

No evidence of premature contractions.

Conclusions: The ECG does not show any abnormalities.

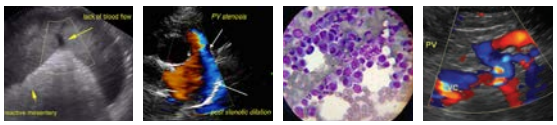
Lisa Carioto, DVM, DVSc, Diplomate ACVIM

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		177	0.56	1.21	0.56	35	70
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	1.1			1.49		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. Minor centralized mitral insufficiency noted in this patient, not clinically significant. Mitral insufficiency velocity of 5.0 m/sec. The **left ventricle** presented normal thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without



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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** insufficiency noted at 1.6 m/sec. 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 was present. No evidence of inflammatory or neoplastic changes were 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 his age patient. Medullary structure differed distinctly from that of the cortex and no evidence of pelvic dilation was present. The left kidney measured 4.36 cm. The right kidney measured 4.0 cm.

Adrenal Glands

The **adrenal glands** were uniform, yet bilaterally swollen and hypoechoic. This is most consistent with stress-induced hyperplasia. The right adrenal gland measured 0.58 cm. The left adrenal gland measured 0.56 cm.

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** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. 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.

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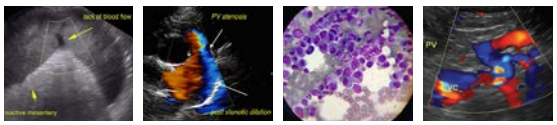

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Gastrointestinal

The upper **gastrointestinal tract** was unremarkable other than minor muscularis hypertrophy, consistent with inflammatory bowel. Soft stool noted in the colon. A mesenteric lymph node measured 1.5 cm.

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 subxyphoid palpation then low-grade smoldering chronic pancreatitis should be suspected.

ULTRASONOGRAPHIC FINDINGS

- Normal echocardiogram with minor mitral and tricuspid insufficiency, not clinically significant
- Mild bilateral adrenal enlargement – stress adrenals, emerging PDH/Cushing's possible.
- Mildly enlarged spleen
- Prominent pancreas
- Inflammatory bowel presentation

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No evidence of volume overload or clinically significant cardiac disease.

If any weight loss is present, FNA of the spleen indicated. No evidence of significant disease. Emerging PDH/Cushing's possible if all parameters are present. However, this is very rare in cats. Acromegaly remote potential. GI support protocol warranted. Given the weight loss, FNA of the spleen indicated with cytology and culture.

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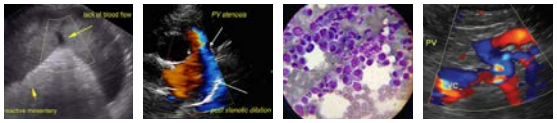

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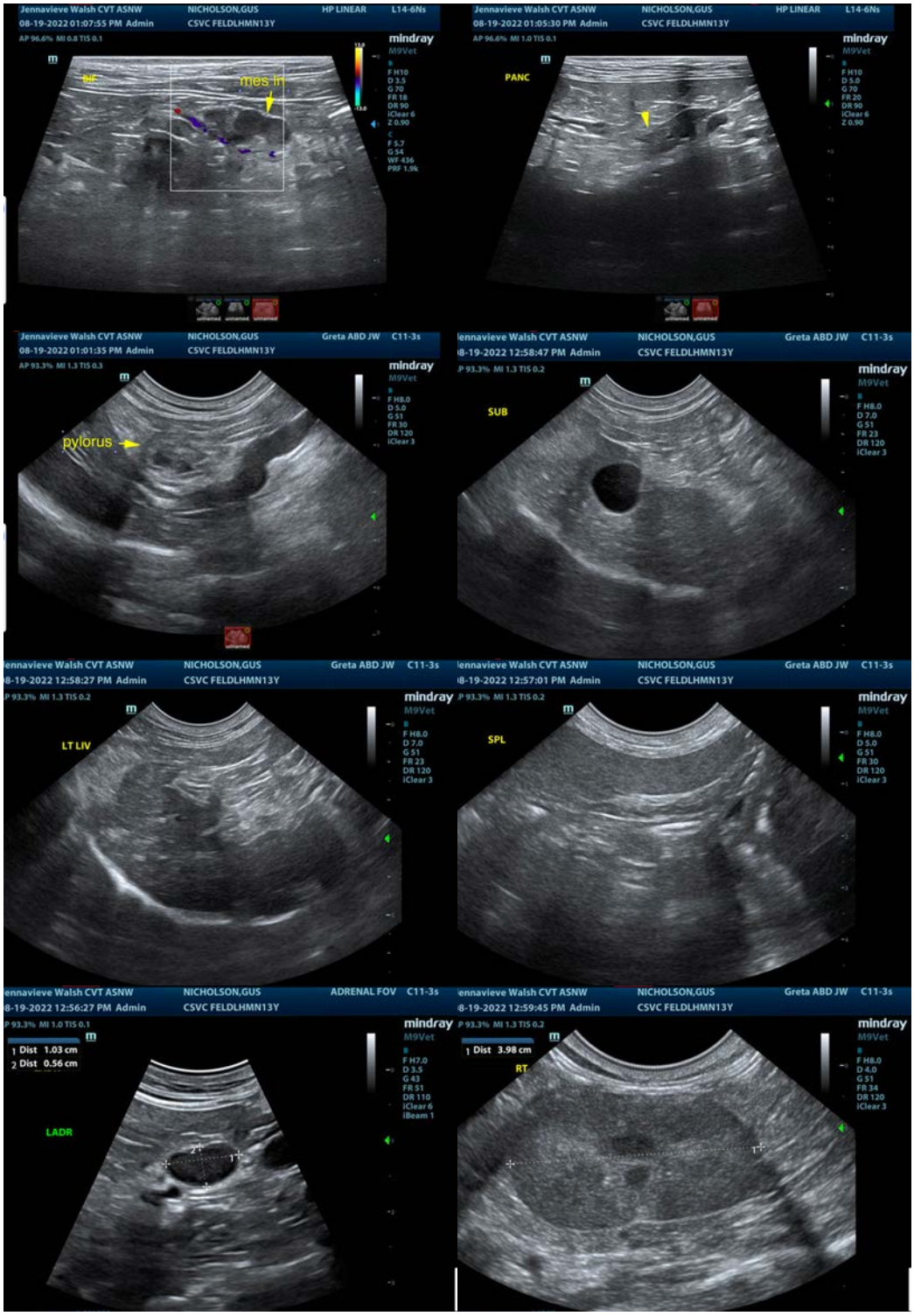

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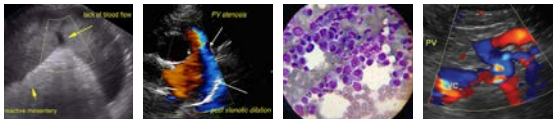

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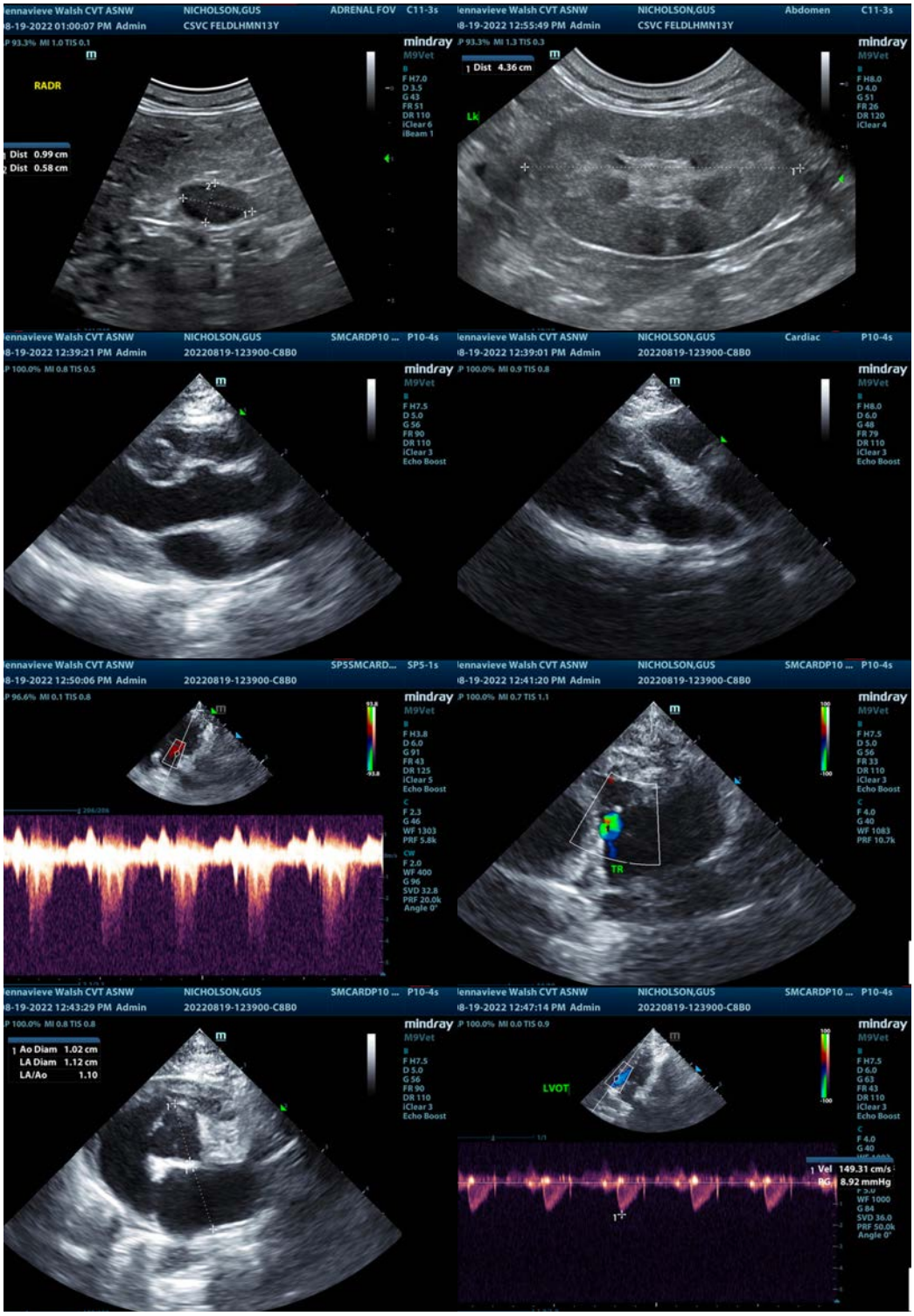

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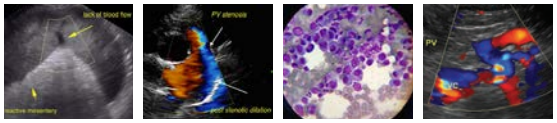

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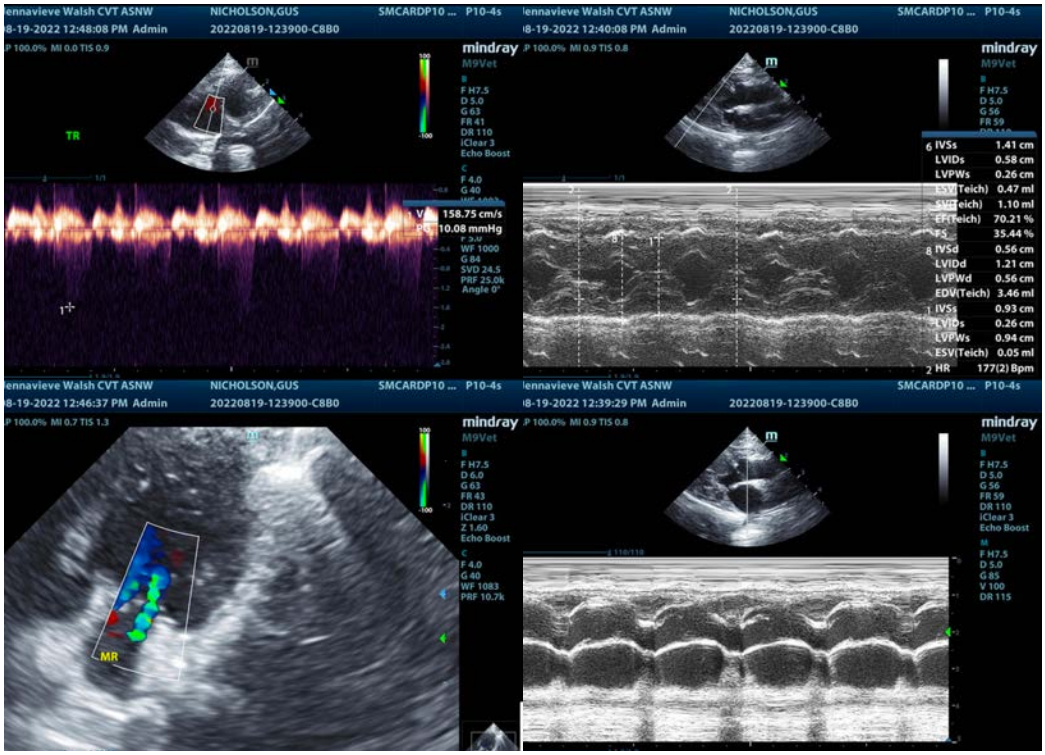

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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