



PATIENT

RJ Summersill

SPECIES

Canine

BREED

Beagle Mix

SEX

Neutered male

AGE

12 years

WEIGHT

25.5 lbs

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jessica Miller, RDMS

HOSPITAL NAME

Westwood Regional
VH

REFERRING VET

Dr. McConnell

INVOICE

94795

DATE

12/21/21

PRESENTING CLINICAL SIGNS

Cardiac murmur, HAC, diarrhea, inappetence. Current meds: Trilostane 30mg SID, cerenia, famotidine, metronidazole
Abnormal PE/Chem/CBC/UA Results: ALT 236, ALP >2000, Chol 33, Lipase 1926, HCT 34.3, Hgb 1.6
UA: occ. calcium oxalate monohydrate/dehydrate

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. The right kidney measured 5.47 cm. The left kidney measured 5.56 cm.

Adrenal Glands

The right **adrenal gland** was uniform and measured 2.67 x 0.98 cm at the caudal pole and 1.59 cm at the cranial pole. The left adrenal gland is nodular with areas of mineralization and capsular expansion without capsular escape. The left adrenal is progressively enlarged compared to the prior sonogram and measured 3.74 x 1.89 cm at the cranial pole and 1.29 cm at the caudal pole.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** revealed similar changes to the prior sonogram with minor remodeling. The right liver revealed a progressive hepatoma type mass measuring approximately 6.0 cm with similar expansive nodular 4.0 cm adjacent mass. This is pedunculated and most consistent with hepatoma. The mass appeared to be coalescing into one larger mass that measured 10.0 cm. The gallbladder was mildly over distended with suspended and dependent debris and some striation. This is consistent with an emerging mucocele. This is progressive compared to the prior sonogram.



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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.

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 based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable insufficiency. 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 or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. 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. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum and pericardial regions** were free of masses in the visible window.



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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	<1.6	28-40	40-100	<0.6
PATIENT	5.74		1.3	1.43	36	66	0.21
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	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	72	2.1	1.26	25.5 lbs	3.4 max	4.01	

ULTRASONOGRAPHIC FINDINGS

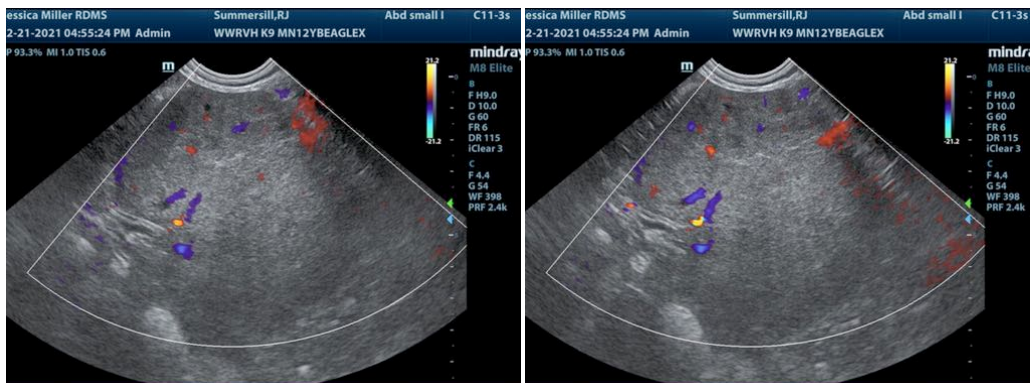
Stage B1 valvular disease, compensated.

Progressive hepatoma type mass.

Nodular adrenal glands, progressive on the left. Likely owing to Trilostane therapy; however, unilateral left adrenal carcinoma cannot be ruled out.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No therapy is recommended. Blood pressure measurements are warranted. Surgical removal of the hepatic mass is ideal. CT for surgical planning is recommended. Liver lobectomy and left adrenalectomy can be considered as a preventative. However, if the patient is stable then I recommend to continue current protocol. However, the lobar liver mass is at risk for potential torsion and has progressed from prior sonogram.





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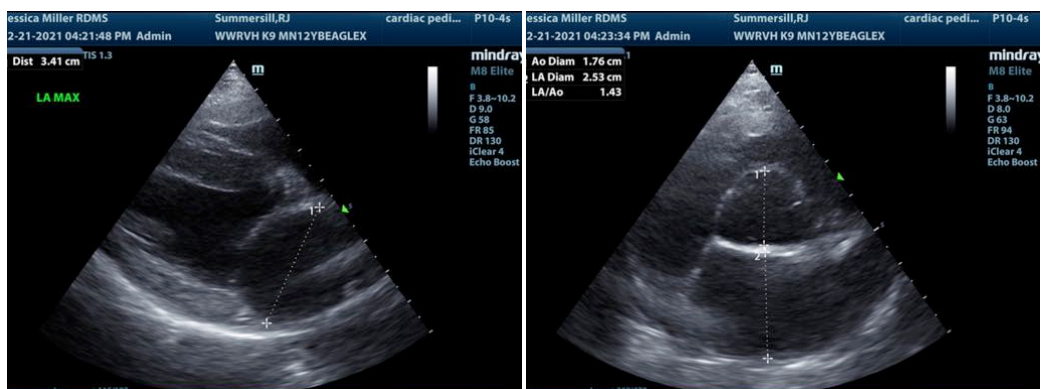
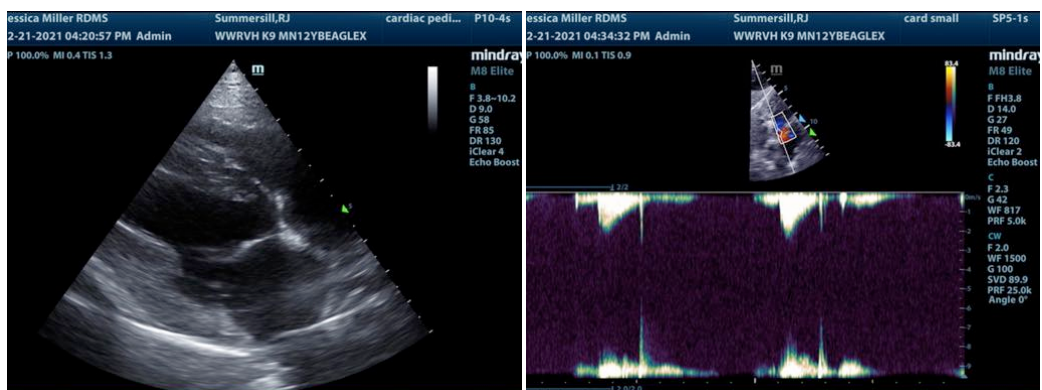
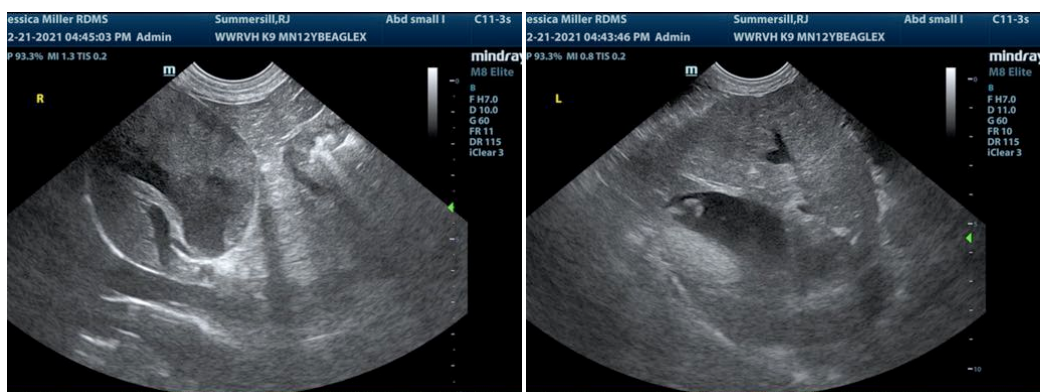
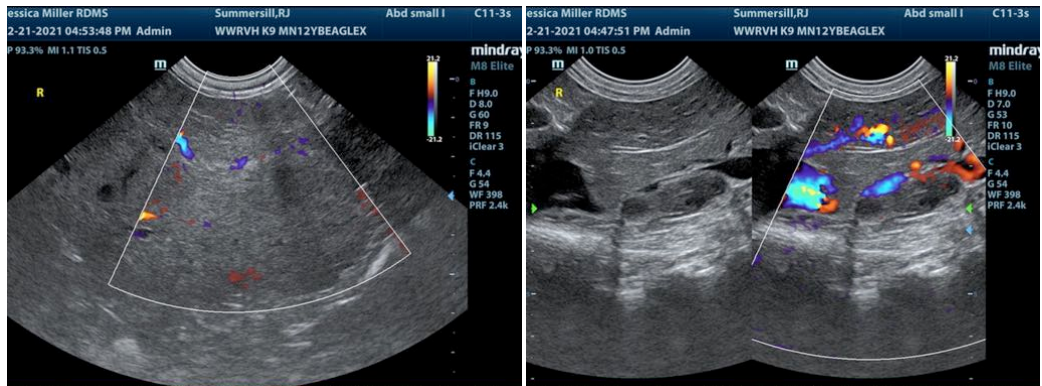
Dr. McConnell

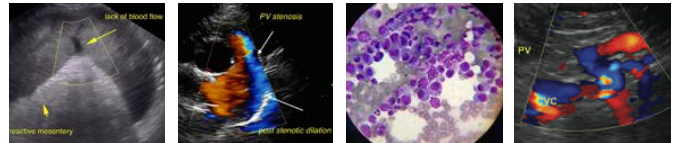
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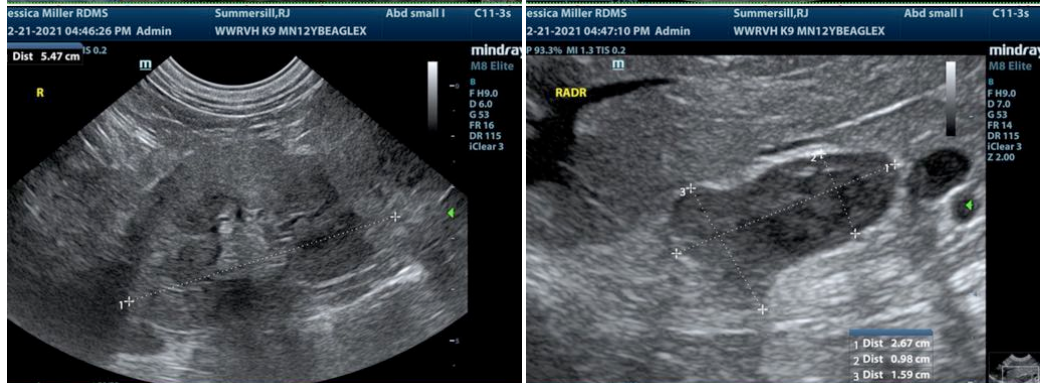
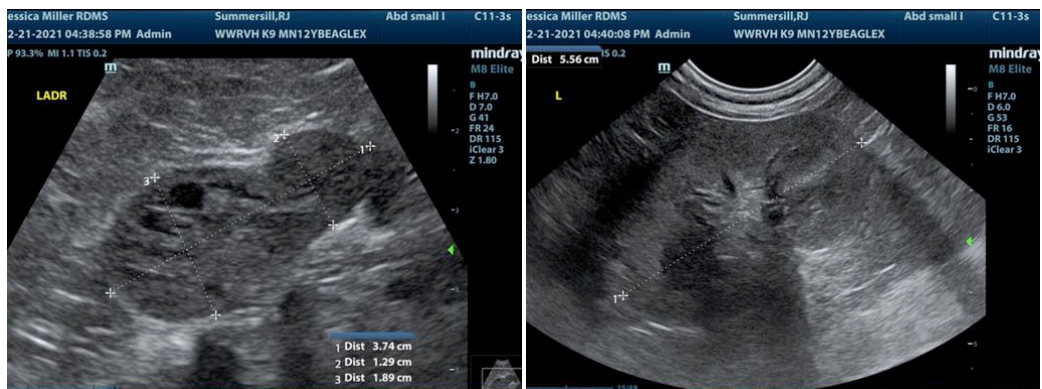
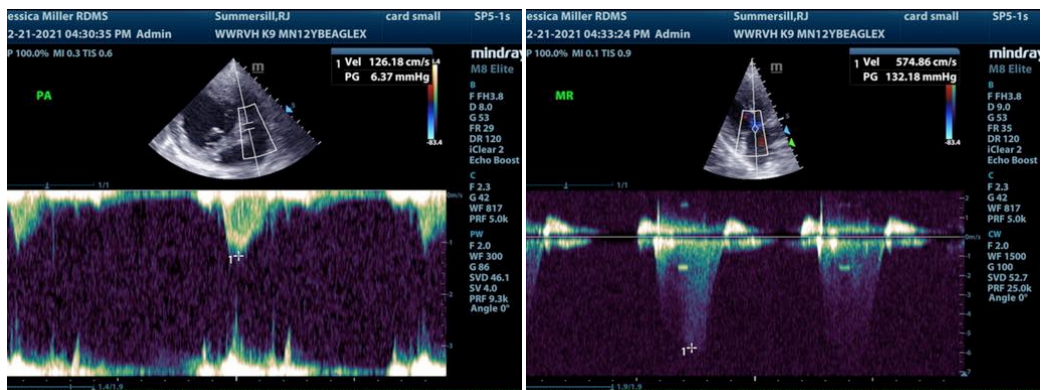
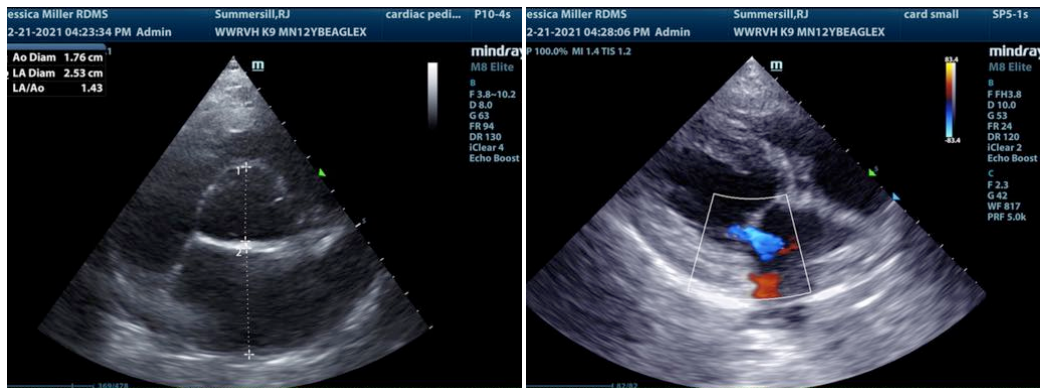
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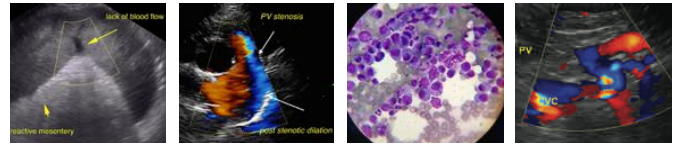
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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

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