



PATIENT

Rufus McCarthy

PRESENTING CLINICAL SIGNS

Enlarged cardiac silhouette, vomiting. Current meds: Cerenia R/O FB
Abnormal PE/Chem/CBC/UA Results: U/A-USG 1.052, elevated wbc

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

BREED

Golden Retriever

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			1.0	1.0	17	36	0.7
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	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		1.6	0.81		4.23	5.08	

SEX

Neutered Male

AGE

7 Years

WEIGHT

Not Given

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Shari Reffi, CVT

HOSPITAL NAME

VCA Blirstown AH

REFERRING VET

Dr. Leal

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DATE

1/7/22

Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Trivial **mitral** insufficiency noted, not clinically significant. Left ventricular septal and free wall thickness were noted. Contractility was subnormal. Left ventricular internal diameter was mildly excessive. EPSS was still within normal limits. 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. Trivial **tricuspid** insufficiency noted, not clinically significant. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** 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. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

Urinary System

The **bladder** in this patient was mildly thickened with slight echogenic mural changes. No calculi or masses were noted. Slight micropolypoid changes were noted. This is a frequent finding in older animals and may be linked to a history of chronic urinary tract infection or active urinary tract infection. Urinalysis would be recommended with culture if any evidence of inflammatory sediment is present.

The region of the trigone and visible pelvic urethra were normal. The pelvic urethra was imaged 3.0 cm beyond the cystourethral junction. The residual prostate was uniform at 1.23 cm.

The **kidneys** revealed normal size and structure, corticomodullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 7.48 cm. The left kidney measured 7.46 cm.



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Adrenal Glands

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Canine

Both **adrenal glands** were 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 2.86 cm x 2.05 cm at the cranial pole and 0.80 cm at the caudal pole. The left adrenal gland measured 3.16 cm x 0.54 cm at the cranial pole and 0.55 cm at the caudal pole.

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Spleen

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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 were noted.

AGE

7 Years

Liver

WEIGHT

Not Given

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.

Gastrointestinal

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

A **pyloric** shadowing structure was present measuring approximately 1", consistent with corncob or similar with a minor amount of stasis behind it. The duodenum presented some spasming with reactive mesentery. Slight linear structure present, may be attached thread to the pyloric structure. Reactive mesentery noted around the duodenum.

IMAGING PERFORMED BY

Shari Reffi, CVT

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

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ULTRASONOGRAPHIC FINDINGS

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Dr. Leal

- Trivial mitral and tricuspid insufficiencies with hypocontractile left ventricle and minor volume overload – possible emerging DCM, myocarditis, hypothyroidism, taurine deficiency all potential in this case.
- Pyloric foreign body – suspect corncob or similar material, persistent in multiple views

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Surgical intervention is essential in this patient. The outflow velocities are normal in this patient. Therefore, this appears to be compensatory. However, EKG warranted. Baseline cortisol would be ideal to rule out occult concurrent Addison's, which can also create hypocontractility. Eventual taurine evaluation recommended. Rapid surgical intervention recommended with inspection of the pylorus and duodenum with GI biopsies. Endoscopy could be considered. However, I'm concerned for a possible very thin linear attachment in the duodenum.

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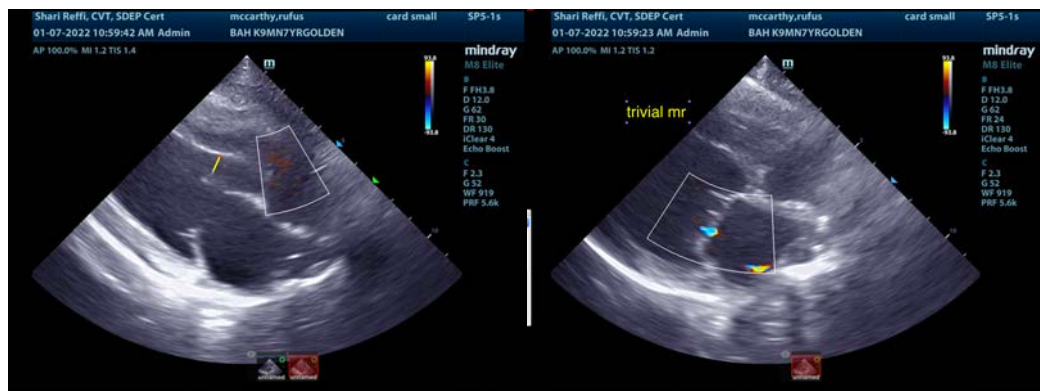
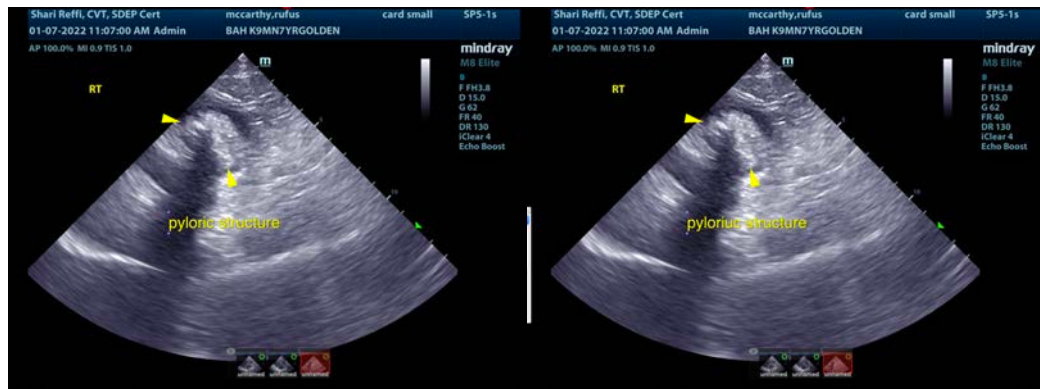
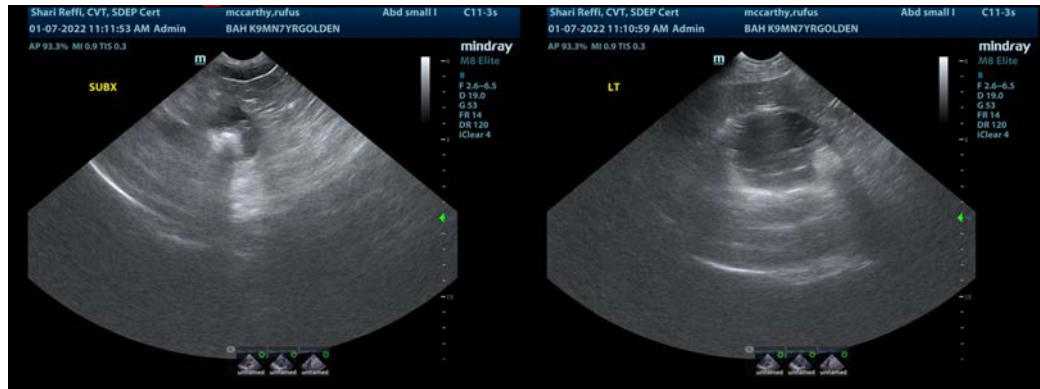
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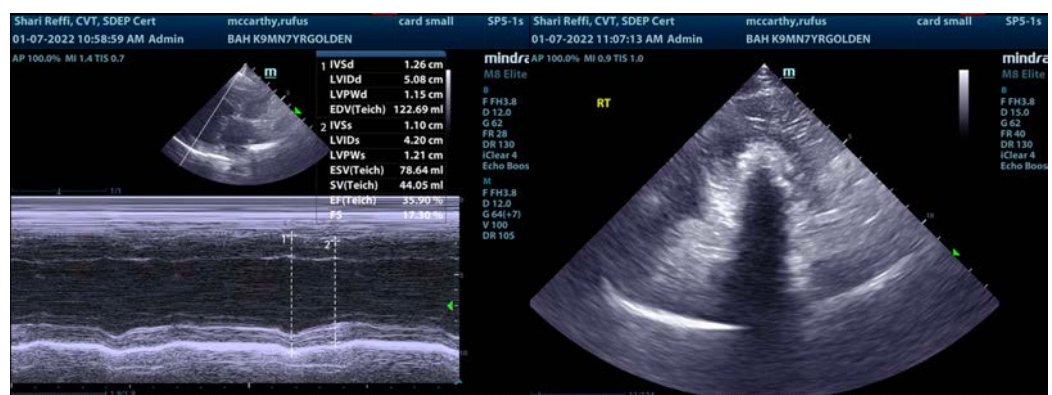
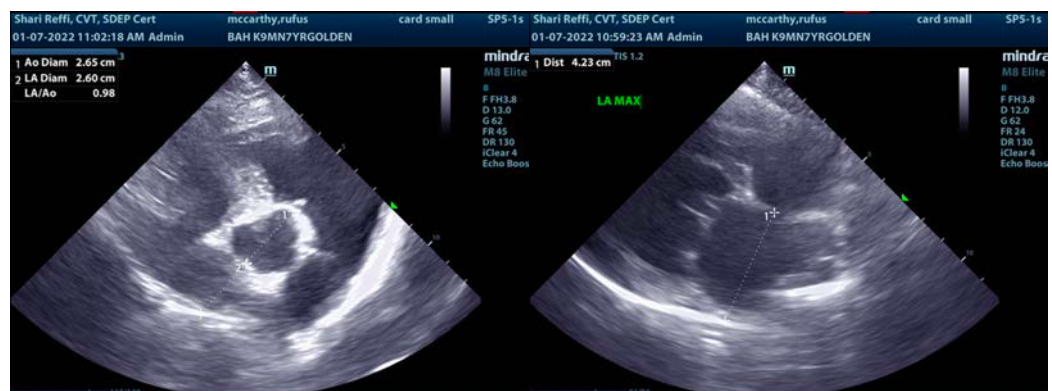
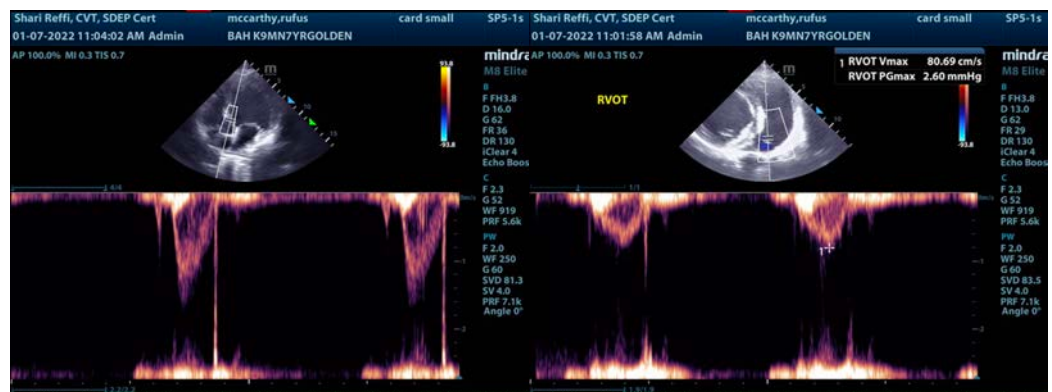
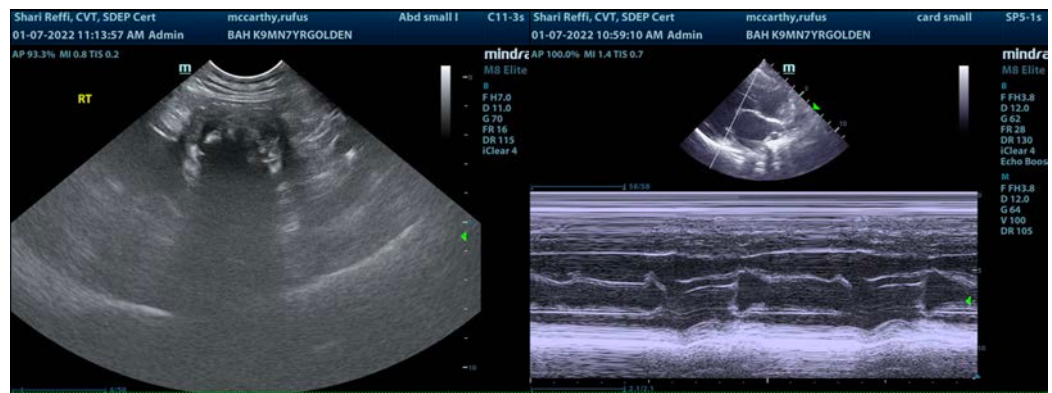
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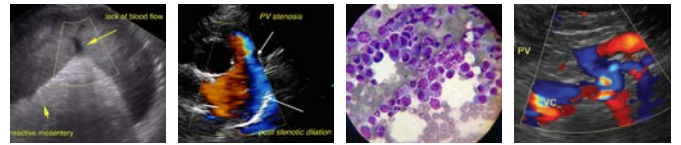
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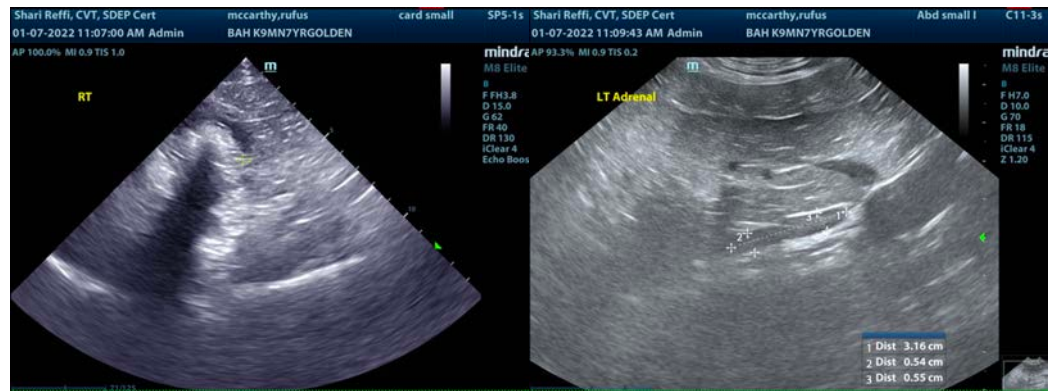
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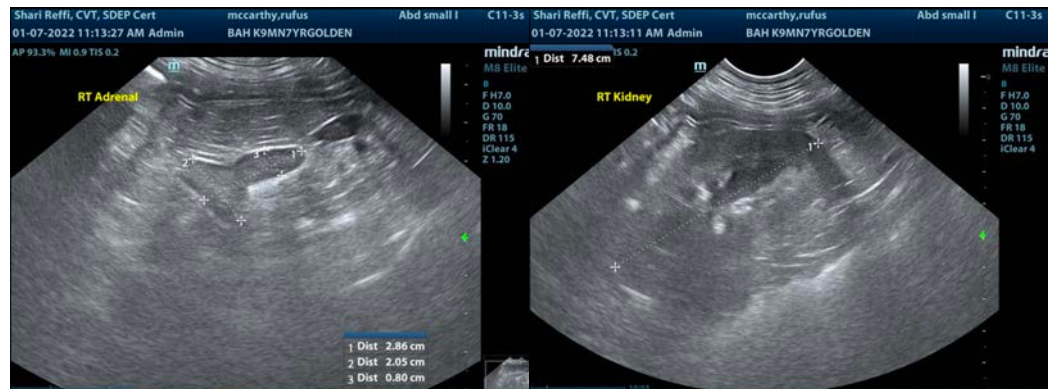
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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

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