


PATIENT

Winston House

SPECIES

Canine

BREED

Bouvier DeFlandres

SEX

Neutered Male

AGE

9.9 Years

WEIGHT

82 Pounds

PRESENTING CLINICAL SIGNS

Patient collapsed 10/2 and was "out of it" and barely ambulatory for 24 hrs, since has been back to normal. Physical exam unremarkable except tachycardia with pulse deficits. CBC / Chem wnl. Thoracic rads show enlarged cardiac silhouette. ECG - supraventricular tachycardia (~250 bpm) with runs of 3-rd degree AV block (sinus rate ~ 250 during the block as well).

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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			1.2				0.8
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					5.0	4.6	

INTERPRETED BY

 Eric Lindquist, DMV
 DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Dr. Tam Mengine

HOSPITAL NAME

Stoney Creek VH

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10/5/21

Cardiac Presentation

The cardiac presentation revealed a severe arrhythmia with right atrial dilation. Right atrium to left atrium ratio was 2:1. Severe tachyarrhythmia noted, influencing the contractility. Contractility was significantly subnormal at approximately 10-15%. Mitral insufficiency noted. Tricuspid insufficiency likely.

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 pelvic urethra was imaged 2.0 cm beyond the cystourethral junction.

The iliac trifurcation was unremarkable. Normal flow, no evidence of thrombosis.

The **kidneys** revealed normal size and structure, corticomedullary 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 7.15 cm. The left kidney measured 6.79 cm.

Adrenal Glands

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 left



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adrenal gland measured 0.72 cm at the caudal pole and 0.49 cm at the cranial pole. The right adrenal gland measured 0.8 cm at the cranial pole and 0.5 cm at the caudal pole.

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.

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Liver

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The **liver** itself was unremarkable. It revealed dilated hepatic veins, consistent with passive congestion pattern. Trace amount of free fluid noted between the spleen and liver. The gallbladder was unremarkable. The vena cava was also dilated.

Gastrointestinal

AGE

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The **stomach** was filled with gas or possible luminal material, non-obstructive. The small intestine and colon were unremarkable.

Pancreas

WEIGHT

82 Pounds

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.

ULTRASONOGRAPHIC FINDINGS

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- Tachyarrhythmia and myocarditis type presentation – possible DCM
- Mitral insufficiency and likely tricuspid insufficiency, given right atrial enlargement

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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Nutritional cardiomyopathy, myocarditis and DCM all possible. Recommend immediate triple therapy in this patient with Pimobendan at 0.3 mg/kg BID, Lasix 2-3 mg/kg BID, and ACE inhibitor 0.5 mg/kg SID progressing to BID. Cage rest recommended and monitoring respiratory rate with target of <20/min. Immediate anti-arrhythmic therapy warranted based on EKG results. Assessment for causes of myocarditis in your region as well as nutritional cardiomyopathy would also be warranted. Taurine levels warranted. Very guarded prognosis. This patient is at high risk for sudden death. No evidence of abdominal disease that would be influencing the cardiac presentation.

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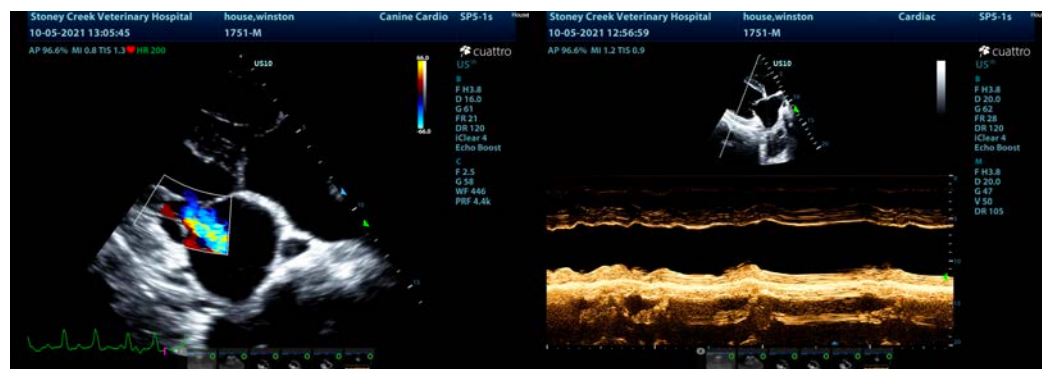
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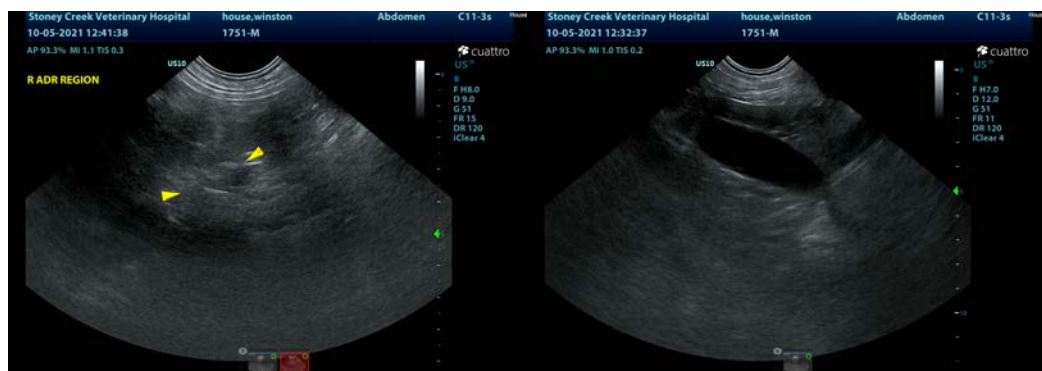
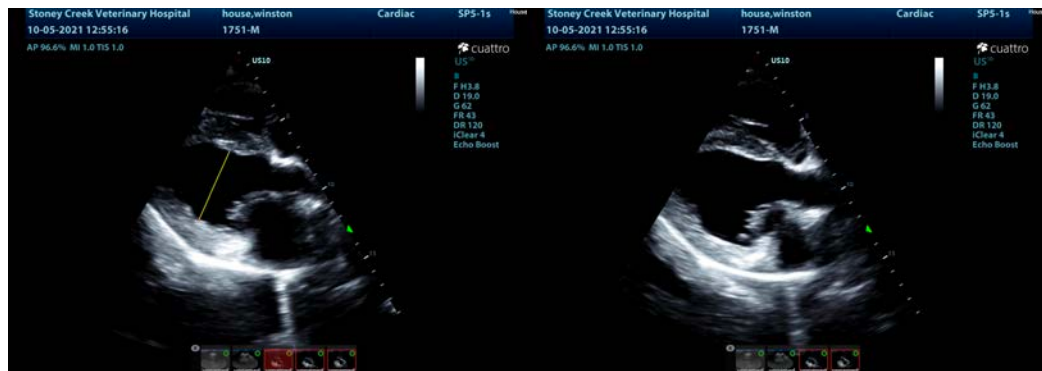
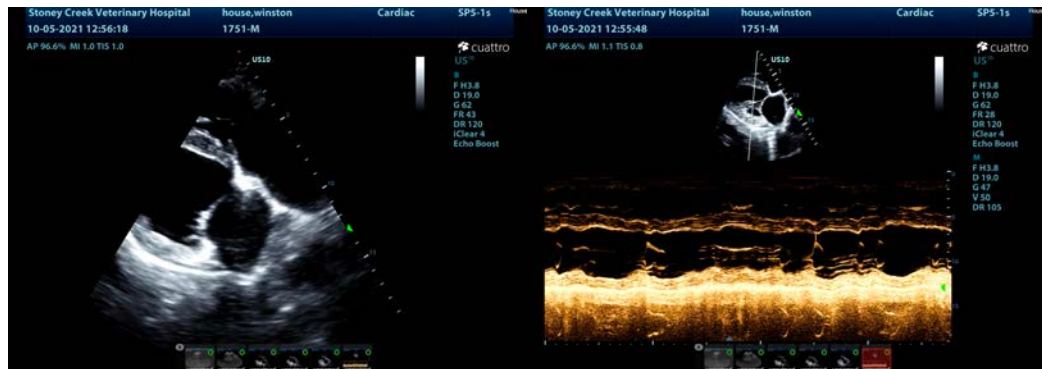
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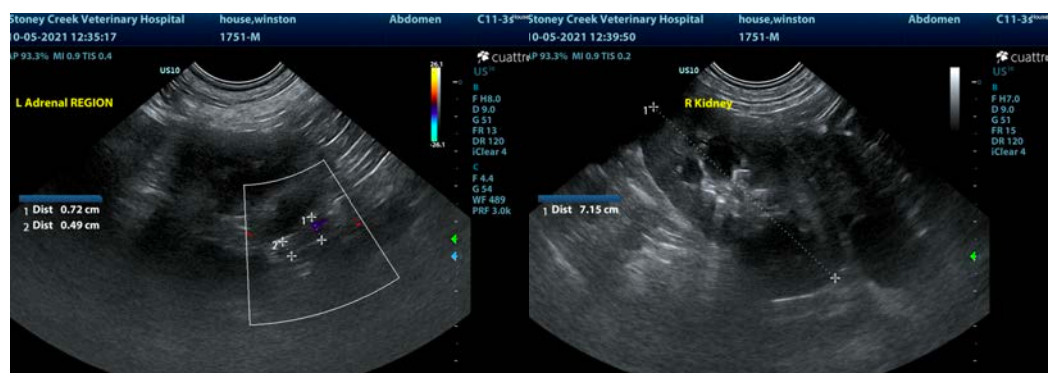
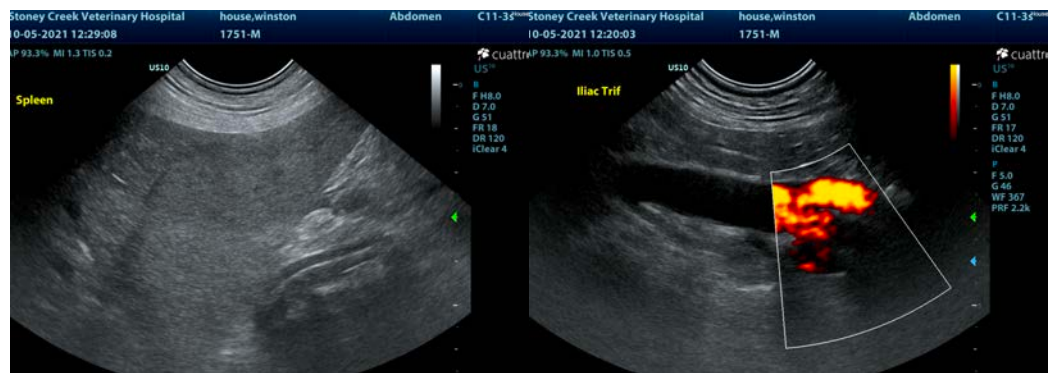
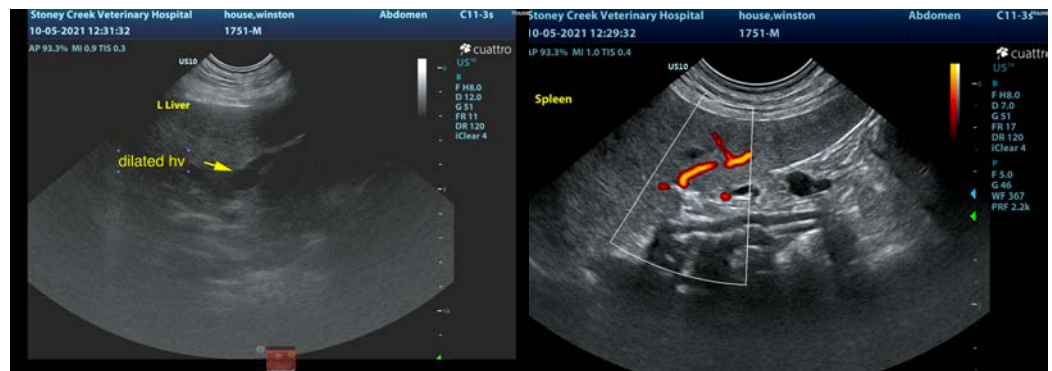
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

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