



PATIENT

Bryar Hogan

SPECIES

Canine

BREED

GSD Mix

SEX

Neutered Male

AGE

11 Years

WEIGHT

50.6 Pounds

PRESENTING CLINICAL SIGNS

ADR, anorexia, exercise intolerance. Irregularly irregular arrhythmia. Occasional dropped beat. Increased RR/panting with harsh BV sounds.
Abnormal PE/Chem/CBC/UA Results: Pending BW, Rads and ECG

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	5.06		1.78	2.16	38	68	NM
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	BELOW	BELOW	BELOW	BELOW
PATIENT	186	1.1	0.74		5.37	4.73	

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Rachel Runnels, RVT

HOSPITAL NAME

SVS Imaging KC

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Cardiac Presentation

The cardiac presentation revealed moderate volume overload of the left atrium, left ventricle and the right ventricle. Mitral insufficiency noted. Tricuspid insufficiency noted at 3.3 m/sec. Pulmonary edema lines noted, consistent with left-sided heart failure. Contractility is mildly subnormal for this type of pathology. Pulmonic insufficiency also noted. No pericardial or pleural effusion. Arrhythmogenic disease also noted.

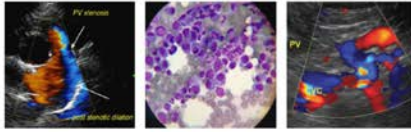
Urinary System

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 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 6.25 cm. The left kidney measured 5.8 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 right adrenal gland measured 0.74 cm at the cranial pole and 0.45 cm at the caudal pole. The left adrenal gland measured 0.70 cm at the cranial pole and 0.67 cm at the caudal pole.

**PATIENT****Spleen**

Bryar Hogan

The **spleen** was enlarged, irregular, swollen and congested, likely secondary to passive congestion, or reactive spleen.

SPECIES**Liver**

Canine

The **liver** was swollen. The gallbladder was unremarkable. Hepatic veins and vena cava were dilated, consistent with right-sided failure. Secondary ascites noted.

BREED**Gastrointestinal**

GSD Mix

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.

SEX

Neutered Male

Pancreas

The **pancreas** was enlarged, hypoechoic and irregular, possibly owing to edema or low-grade inflammation. Enhanced surrounding mesentery noted.

AGE

11 Years

ULTRASONOGRAPHIC FINDINGS**WEIGHT**

50.6 Pounds

- Stage C1 valvular disease with pulmonary edema lines and left and right-sided heart failure
- Enlarged, irregular spleen – secondary to passive congestion or reactive state
- Swollen liver with dilated hepatic veins and vena cava
- Secondary ascites
- Enlarged, hypoechoic pancreas

INTERPRETED BYEric Lindquist, DMV
DABVP, Cert. IVUSS**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Recommend focusing therapy on the heart in this patient, as the abdominal findings are likely secondary to primary cardiac disease. Quadrotherapy recommended with Pimobendan 0.3 mg/kg BID, ACE inhibitor 0.5 mg/kg SID progressing to BID, Lasix at 2-3 mg/kg BID, and Spironolactone at 1-2 mg/kg BID. EKG indicated. Anti-arrhythmic therapy may be based on EKG findings. However, primary cardiac therapy may resolve the arrhythmogenic activity. Recheck echocardiogram in 5-10 days depending upon progression of the patient. Target resting respiratory rate of 25/min or less.

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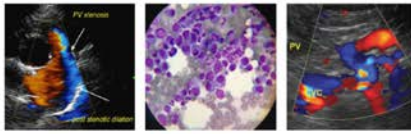
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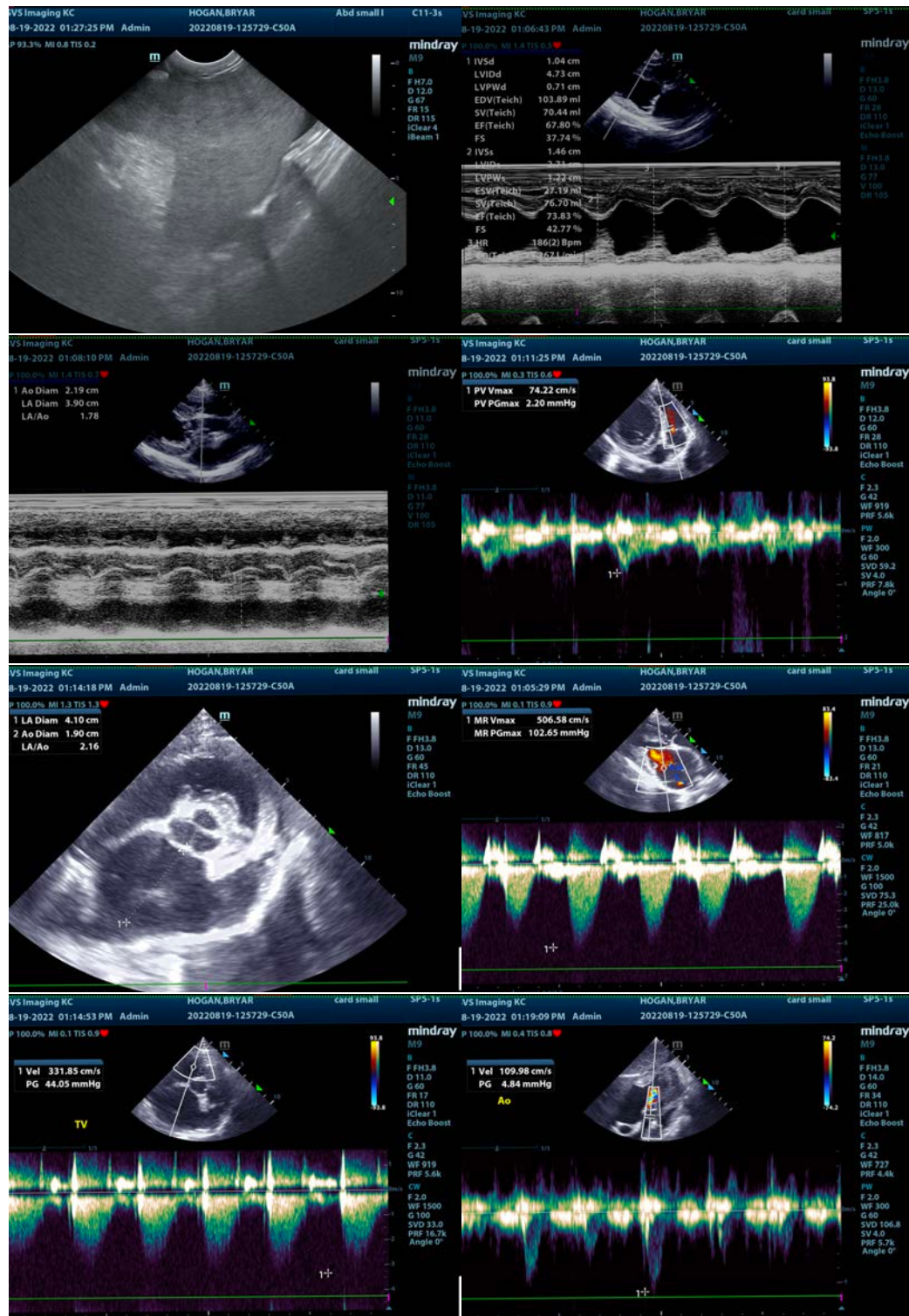
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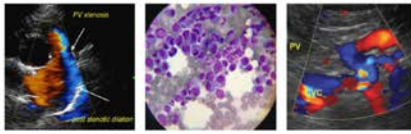
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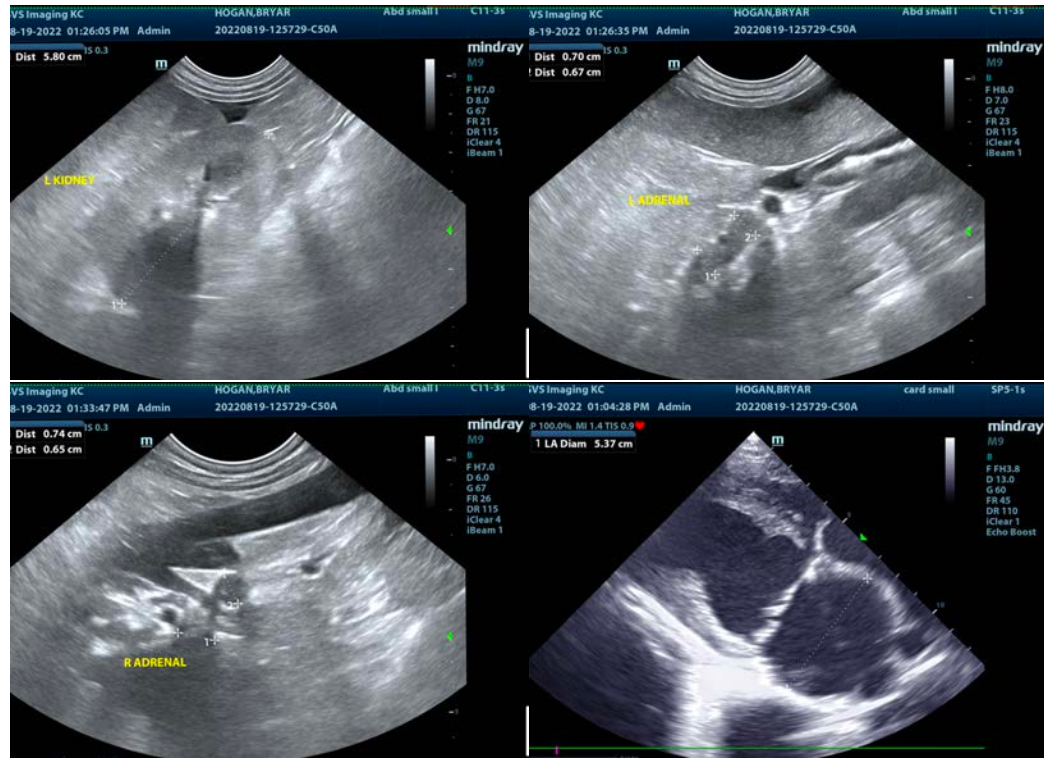
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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

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