



PATIENT

Nikita Kuhar

SPECIES

Canine

BREED

German Shepherd

SEX

Spayed Female

AGE

3.5 Years

WEIGHT

86.6 Pounds

PRESENTING CLINICAL SIGNS

History: bloated abdomen, enlarged heart on rads; hx of seizures, on phenobarb
Radiographs revealed ascites and cardiomegaly.

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	<1.3	28-40	40-100	<0.6
PATIENT	5.28	--	2.0	2.54	55	85	0.86
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	53	2.70	1.70	--	6.23	5.89	--

INTERPRETED BY

Eric Lindquist, DMV
DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Animal Mansion VH

REFERRING VET

Dr. Parker

INVOICE

14899

DATE

4/28/22

Cardiac Presentation

The cardiac presentation in this patient presented severe bradyarrhythmia and severe volume overload. Mitral and tricuspid insufficiency noted with biatrial enlargement. Left and right sided heart failure noted. When the heart contracted, contractility was normal, however, significant pauses of asystole 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 7.36 cm. The left kidney measured 6.36 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 2.54 cm x 0.49 cm at the caudal pole and 0.44 cm at the cranial pole. The right adrenal gland measured 2.86 cm x 2.34 cm at the cranial pole and 0.54 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** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. Hepatic vein dilation was noted with passive congestive pattern owing to right sided failure. Secondary ascites noted.

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Gastrointestinal

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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

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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

IMAGING PERFORMED BY

Diane McFadden

- Left and right sided failure
- Hepatic vein dilation with passive congestion pattern
- Secondary ascites
- Unremarkable abdomen otherwise

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

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I recommend focusing on the cardiac failure in this patient at this time. I recommend Lasix at 3-4 mg/kg BID, ace-inhibitor at 0.5 mg/kg SID progressing to BID, Pimobendan at 0.3 mg/kg BID and spironolactone at 1-2 mg/kg BID all indicated. Cage rest indicated. This patient is at high risk for sudden death. A stat EKG indicated, as heart block is suspected. Underlying myocarditis or nutritional cardiomyopathy should be considered in this patient. However, the parameters of DCM-like syndrome are not evident. Prognosis is extremely guarded. Recheck echocardiogram in 5-7 days if the patient survives this initial crisis.

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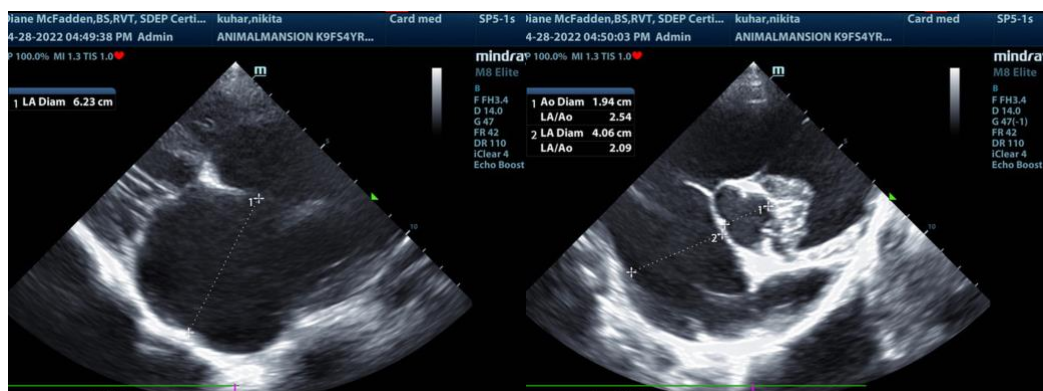
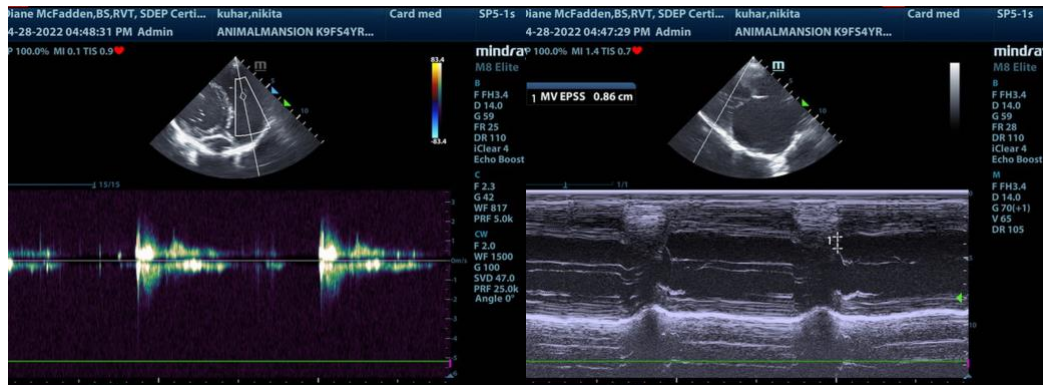
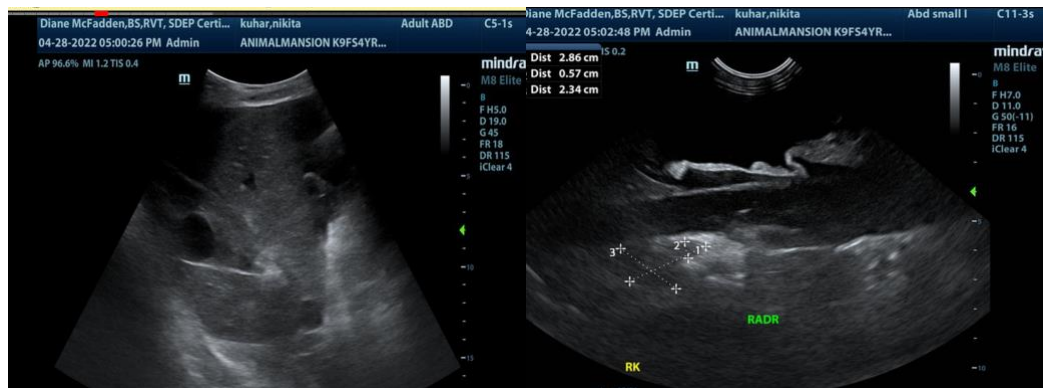
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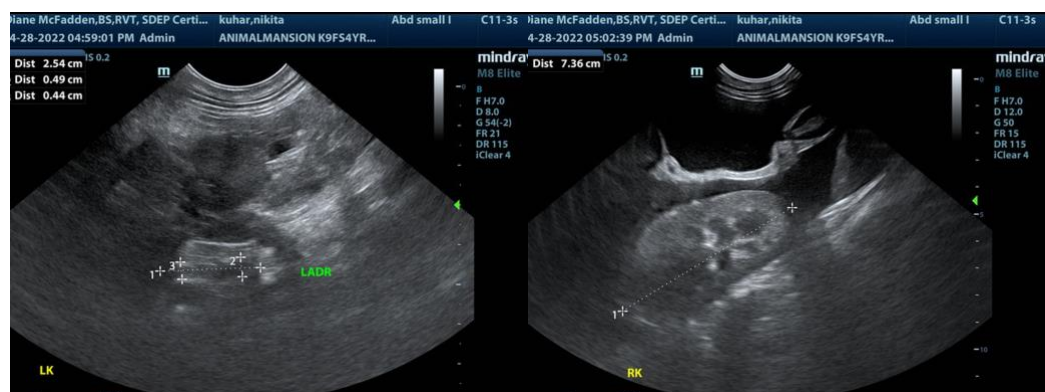
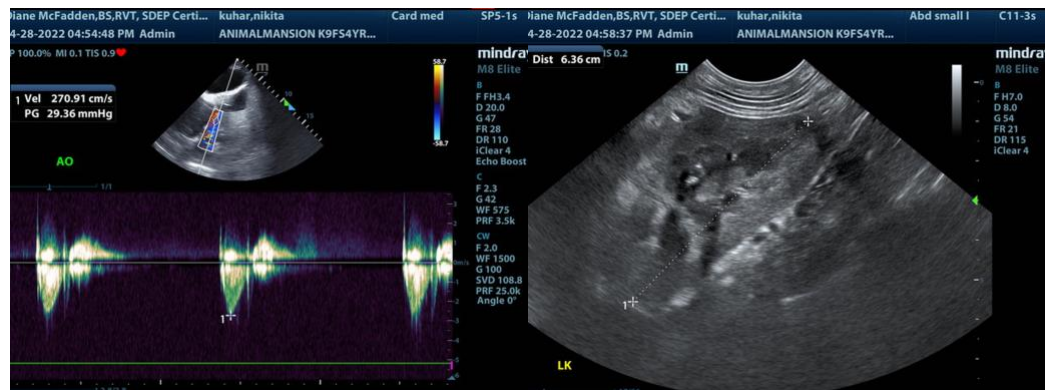
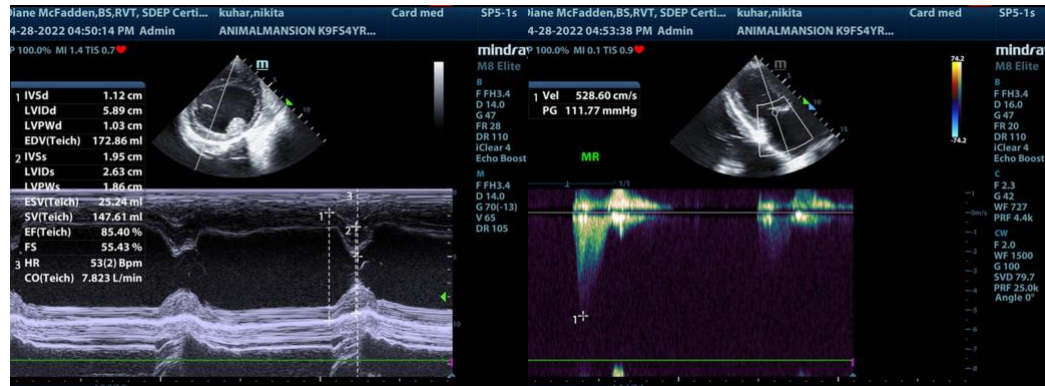
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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