


PATIENT

Curly Leeming

SPECIES

Canine

BREED

Pit Bull

SEX

MN

AGE

10 years

WEIGHT

N/A

INTERPRETED BY

 R. McKenzie Daniel,
 DVM, DABVP
 (Canine and Feline)

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

 Sova Animal
 Hospital

REFERRING VET

Dr. Ammeraal

INVOICE

14880

DATE

8/23/23

PRESENTING CLINICAL SIGNS

 nonproductive cough, grade 2-3/6 murmur. not on any meds
 Abnormal PE/Chem/CBC/UA Results: 6/22/23: ALT 477, ALB 2.6

ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

CANINE	MR	TR	LA/AO	LA/AO	FS	EF	EPSS
CARDIAC PARAMETERS	VMAX (m/s)	VMAX (m/s)	(Boon method)	(Heart Base; Swe)	(%)	(%)	(cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	5.5	2.9		1.1	35	70	0.3
CANINE	HR	AV	PV	BODY WEIGHT	LA	LVIDd	LVIDs
CARDIAC PARAMETERS	(BPM)	VMAX (m/s)	MAX (m/s)	(kg)	2D short axis Base view (cm)	Avg; 2D and m-mode short axis (cm)	Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6				
PATIENT	NM	1.3	1.0		4.0	4.4	

Cardiac Presentation

Moderate volume pericardial effusion with diastolic collapse of the right atrial wall, consistent with cardiac tamponade, is present. A mildly nonhomogeneous lesion associated with the right auricle measuring approximately 3.3 cm in diameter is present. Normal VL volume with adequate LV systolic function is noted. The left atrium is normal in diameter. The right atrium overall is normal to mildly dilated in appearance. Pulmonic and aortic valves are overly normal in appearance. Normal measured outflow velocities are noted. Minor MR and TR are present on Doppler.

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

The residual prostate was free of pathology.

No evidence of medial iliac or sublumbar lymphadenopathy/masses.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio was maintained. The medulla and cortices were uniform in texture with some increased echogenicity and mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence



PATIENT	of pelvic dilation was present. The left kidney measured 7.3 cm in length. The right kidney measured 6.0 cm in length.
Curly Leeming	
SPECIES	Adrenal Glands
Canine	The left and right adrenal glands were not definitively visualized owing to peritoneal effusion and increased peri adrenal omental artifact.
BREED	Spleen
Pit Bull	The spleen exhibited generalized enlargement with splenic folding yet maintained symmetrical capsule contour. Subtle parenchymal heterogeneity was noted with overtly normal splenic vascularity. There were no visualized splenic masses or nodules.
SEX	Liver/ Gallbladder
MN	The liver presented enlarged in size with a symmetrical, yet swollen contour. The parenchyma exhibited conserved uniform parenchyma with normal echogenicity isoechoic to the spleen and falciform fat. The hepatic vasculature was dilated in appearance, most notable at the level of the hepatic vein / caudal vena cava junction, without evidence of thrombosis. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.
AGE	Gastrointestinal
10 years	The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.
WEIGHT	The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.
N/A	Normal visible colon wall layers were present with apparent formed feces in lumen.
INTERPRETED BY	Pancreas
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.
IMAGING PERFORMED BY	Free Abdomen
Diane McFadden	Moderate to significant volume mildly echogenic peritoneal effusion was present. Generalized primarily uniform hyperechoic omentum was present. No overtly visualized omental lymphadenopathy or evidence of omental masses was present.
HOSPITAL NAME	ULTRASONOGRAPHIC FINDINGS
Sova Animal Hospital	<ul style="list-style-type: none"> • Moderate volume pericardial effusion with secondary cardiac tamponade • Right auricle mass • Minor MR / TR - no overt clinical pulmonary hypertension • Congestive hepatomegaly
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- Nonspecific folded splenomegaly exhibiting subtle parenchyma heterogeneity - congestion, hyperplasia, hematopoiesis, splenitis, infiltrative neoplasia possible
- Moderate to significant volume peritoneal effusion

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The sonographic findings are most consistent with cardiac tamponade due to pericardial effusion secondary to cardiac neoplasia associated with the right auricle, secondary hepatic congestion, and probable abdominal ascites. The most likely tumor type, given this location, is hemangiosarcoma with other tumor types possible, yet thought less likely.

Prognosis with suspected cardiac hemangiosarcoma is generally poor with a high risk for recurrent or progressive pericardial hemorrhage and recurrent tamponade, development of malignant arrhythmias, and / or sudden death. Referral for pericardiocentesis with pericardial fluid cytology in search of a definitive diagnosis is recommended. An oncology consult for potential chemotherapeutic or radiation options could be discussed.

Given suspected cardiac hemangiosarcoma and likely secondary hemorrhagic pericardial effusion, Yunnan Baiyao may be considered to help decrease the risk of bleeding, although treatment benefit is speculative.

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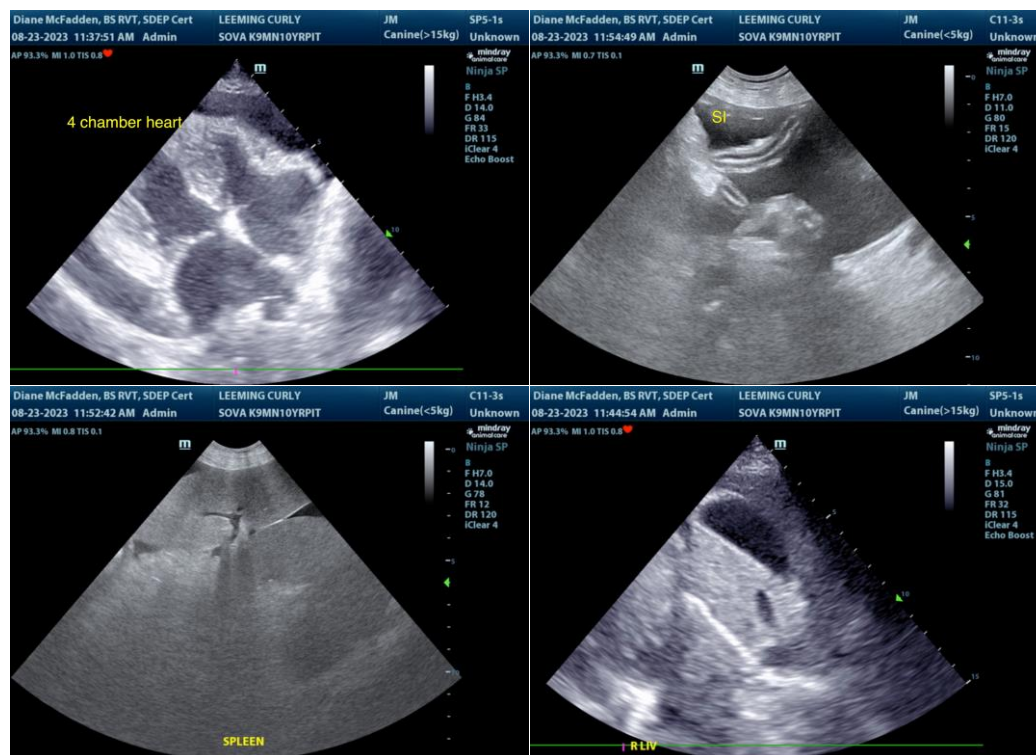
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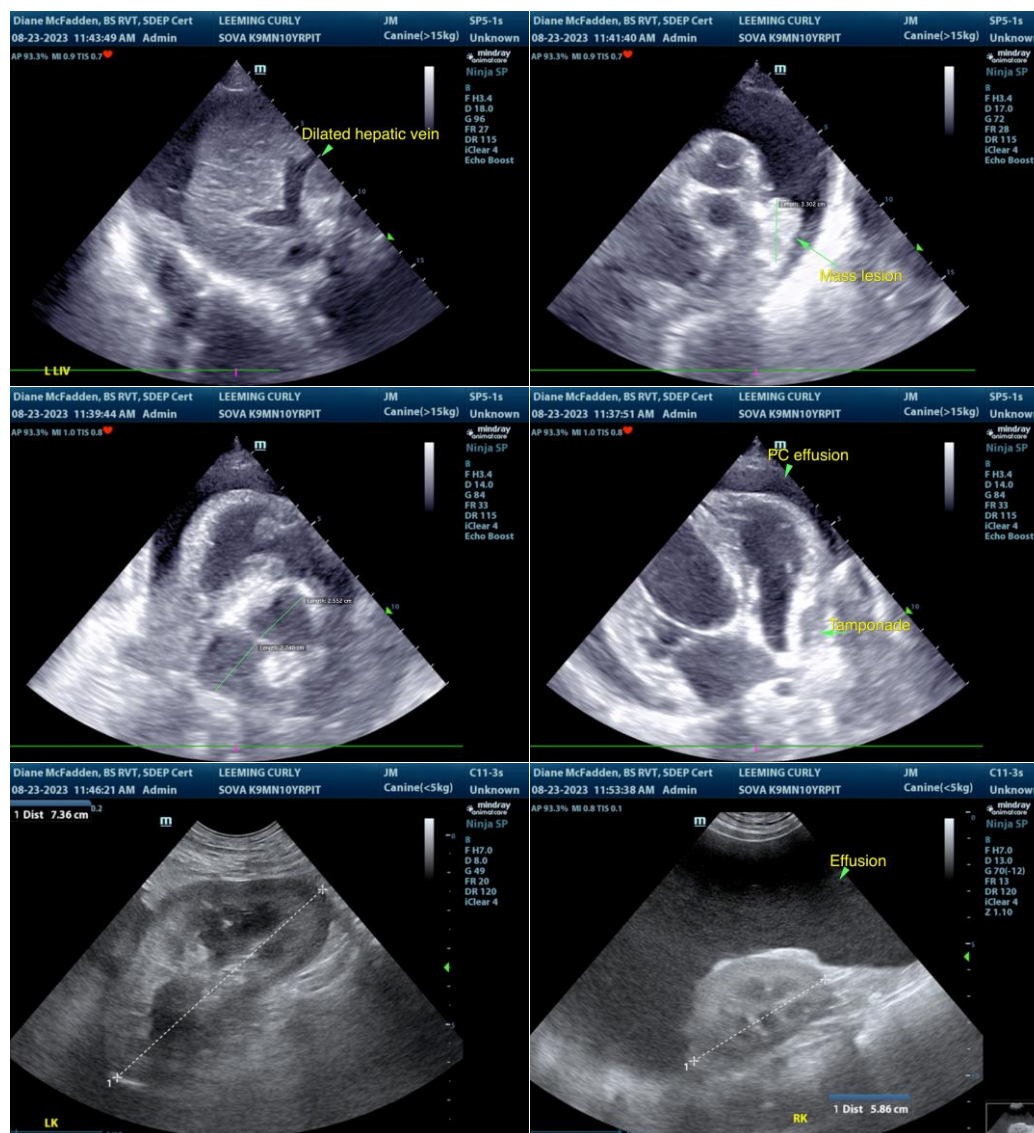
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine/Feline Practice)
info@sonopath.com