



## PATIENT PRESENTING CLINICAL SIGNS

**PATIENT**  
Shamrock Grillo  
History: New cough, decreased heart sounds, xrays show very large heart. concern for neoplasia, DCM

## SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

Canine

### BREED

Retriever X

### SEX

Neutered Male

### AGE

10 Years

### WEIGHT

107 Pounds

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	--	--	NM	1.44	37	70	0.40
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	NM	2.0	1.3	--	5.0	4.4	--

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Val Shumskaya

## HOSPITAL NAME

Rockaway AH

## REFERRING VET

Dr. Ascot

## INVOICE

21952

## DATE

4/13/23

### Cardiac Presentation

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease.

**Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. 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 urinary bladder, trigone, cystourethral junction, and visible pelvic urethra 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 were noted.



<b>PATIENT</b>	The area of the residual prostate appeared normal and free of pathology.
Shamrock Grillo	No evidence of medial iliac or sublumbar lymphadenopathy.
<b>SPECIES</b>	Normal size and margination was 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 of pelvic dilation was present. The left kidney measured 8.5 cm in length. The right kidney measured 9.7 cm in length. Focal to intermittent small cortical cysts were present in the left kidney.
Canine	
<b>BREED</b>	<b>Adrenal Glands</b>
Retriever X	Both the left and right adrenal glands were indistinctly visualized given the patient size and conformation. No overt pathology was noted. The left adrenal gland subjectively measured 0.72 cm at the caudal pole in width. The right adrenal gland subjectively measured 0.64 cm in width.
<b>SEX</b>	
Neutered Male	<b>Spleen</b>
<b>AGE</b>	The spleen exhibited primarily finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Solitary to several, medial parenchymal nondisruptive hyperechoic nodules were present throughout the cranial to caudal parenchyma consistent with benign myelolipomas. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory or neoplastic changes were not noted.
10 Years	
<b>WEIGHT</b>	
107 Pounds	<b>Liver</b>
<b>INTERPRETED BY</b>	The liver was subjectively normal in size. Mild nonuniform generalized hepatic parenchyma echogenicity was noted, exhibiting subtle hypoechoic intraparenchymal nodules.
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The gallbladder was non distended in size with mild nonorganized debris with primarily anechoic luminal content. No evidence of gallbladder/peripheral gallbladder inflammation. The cystic duct and common bile ducts were normal without evidence of dilation.
<b>IMAGING PERFORMED BY</b>	<b>Gastrointestinal</b>
Val Shumskaya	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.
<b>HOSPITAL NAME</b>	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.
Rockaway AH	Normal visible colon wall layers were present with apparent formed feces in lumen.
<b>REFERRING VET</b>	<b>Pancreas</b>
Dr. Ascot	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 was evident.
<b>INVOICE</b>	<b>Free Abdomen</b>
21952	No omental masses, lymphadenopathy or peritoneal effusion was present.
<b>DATE</b>	<b>ULTRASONOGRAPHIC FINDINGS</b>
4/13/23	



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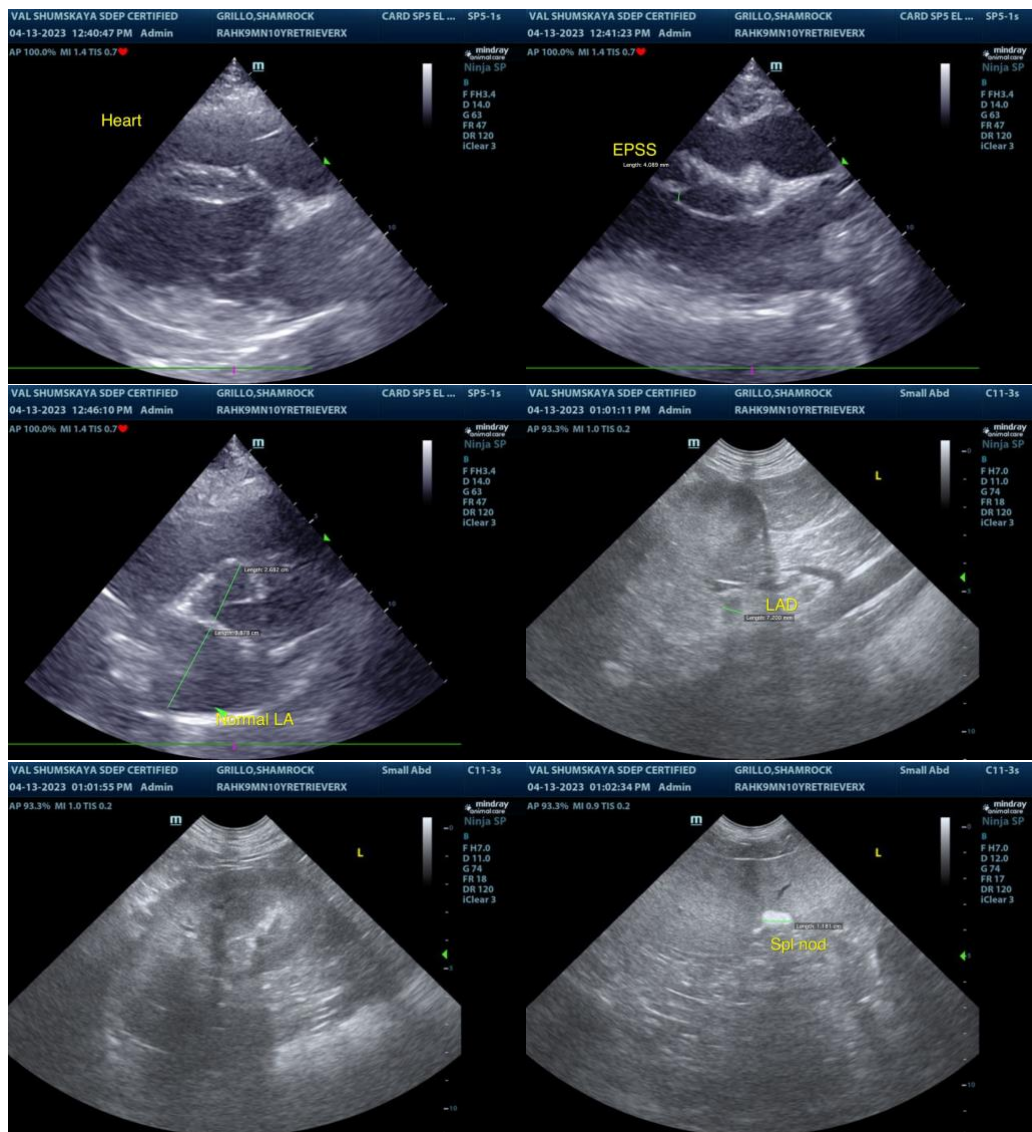
**DATE**

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- Overtly normal cardiac structure and function for age/breed- DCM criteria was not met
- Mild nonuniform, subtly nodular liver
- Gallbladder debris (non-mucocele)
- Chronic renal changes with intermittent small cortical cysts
- Benign splenic nodule- consistent with benign myelolipoma

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

No evidence of structural/functional cardiomyopathy with largely geriatric abdominal changes. No overt evidence of DCM criteria or evidence of cardiac or intraabdominal neoplastic criteria. The liver is suggestive of benign parenchymal remodeling or potential vacuolar hepatopathy with subtle areas of hyperplasia, hematopoiesis or similar. The overall normal cardiac structure and function, without evidence of DCM criteria or pericardial disease, indicates that the coughing in this patient is noncardiogenic in origin.





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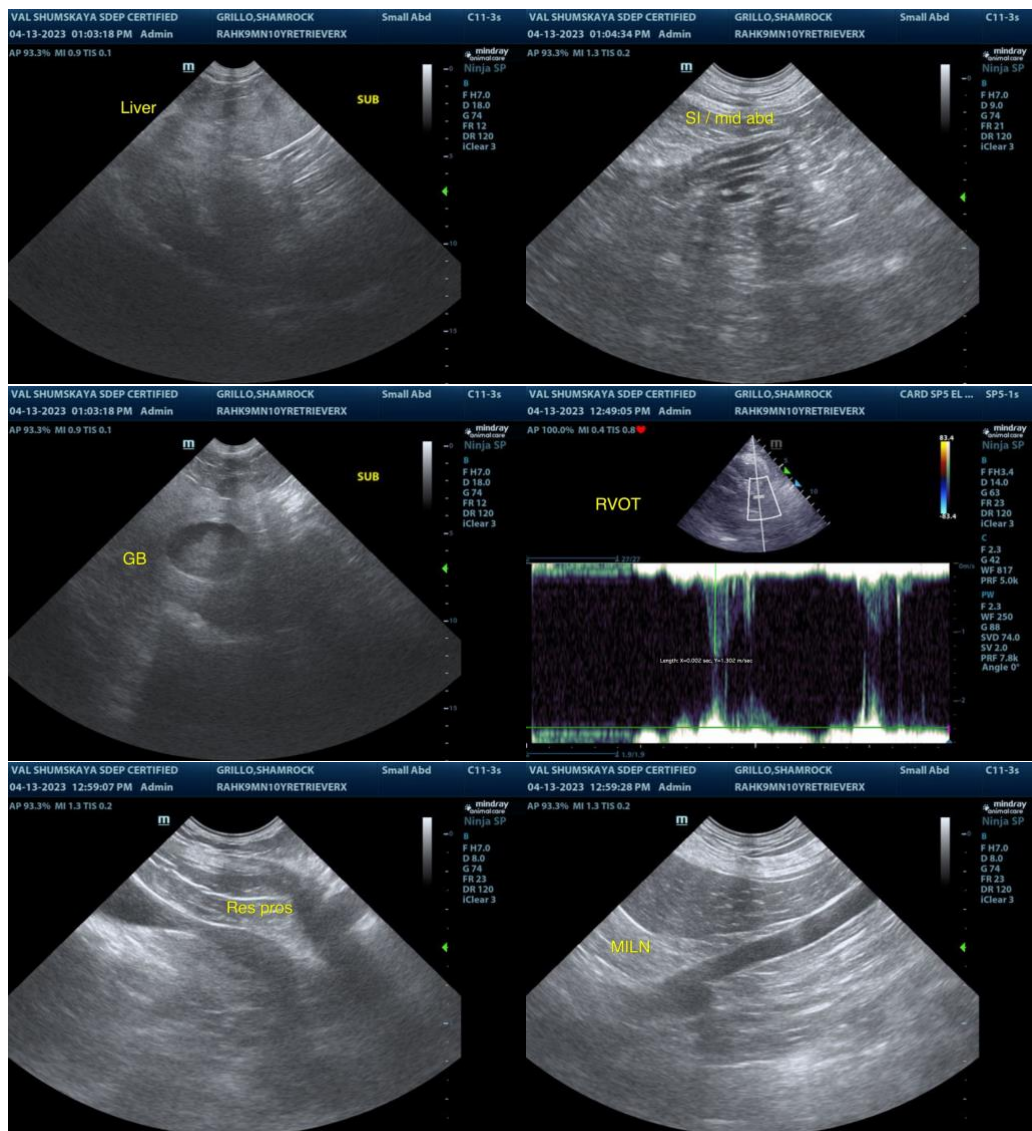
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

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