



**PATIENT PRESENTING CLINICAL SIGNS**

Jax Parrilli Loud murmur, coughing. Diabetic. R/O Cushing's disease.

**SPECIES ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

Canine

BREED

Shippo

SEX

Neutered Male

AGE

9 Years

WEIGHT

20 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	<1.6	28-40	40-100	<0.6
PATIENT	5.0	<1.0	NM	1.45	51.7	86.7	0.2
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	123	2.1	1.1		2.8	2.9	

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Kelly Vazquez

**HOSPITAL NAME**

New Bridge VP

**REFERRING VET**

Dr. Glennon

**INVOICE**

25124

**DATE**

9/1/21

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal **mitral** valve leaflets presented variable vegetative thickening, most prominent in the septal leaflet, consistent with endocardiosis. Doppler indicated measurable eccentric insufficiency. 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 systolic flow and subjective structural integrity. Color doppler assessment of the aortic valve revealed aortic valve insufficiency. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted or chamber overload. **Tricuspid** valvular assessment demonstrated adequate linear morphology. Mild tricuspid valve insufficiency noted on color doppler. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** tract assessment revealed subjective normal valve structure, laminar flow, and diameter (approx. 1:1 pa/ao ratio). Color doppler assessment of the pulmonic valve revealed mild pulmonic valve insufficiency with in diastolic velocity of 0.6 m/sec. No visible **pericardial** or free pleura fluid was noted. No echographically detectable evidence of infiltrative disease was visible. The cranial **mediastinum** and **pericardial** regions were free of masses in the visible window.

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 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 were noted.



<b>PATIENT</b>	The residual prostate was symmetrically normal in size with uniform parenchyma and slight coarse echotexture. The prostate measured 1.0 cm diameter.
Jax Parrilli	
<b>SPECIES</b>	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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.6 cm. The right kidney measured 5.1 cm.
Canine	
<b>BREED</b>	<b>Adrenal Glands</b>
Shippo	The adrenal glands exhibited subjective mild prominent size. The left adrenal gland measured 1.9 cm length x 0.65 cm at the caudal pole. The right adrenal gland measured 1.9 cm length x 0.59 cm at the caudal pole.
<b>SEX</b>	<b>Spleen</b>
Neutered Male	The spleen exhibited primarily finely textured parenchyma which was hyperechoic to the liver and renal cortical parenchyma. Mild generalized parenchyma heterogeneity was present. A solitary, non-expansive hypoechoic nodule was present, measuring 0.27 cm. 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. The parenchymal heterogeneity is likely consistent with benign changes such as extramedullary hematopoiesis or age related remodeling with minor potential for inflammatory or neoplastic disease.
<b>AGE</b>	
9 Years	
<b>WEIGHT</b>	<b>Liver</b>
20 Pounds	The liver was subjectively normal in size, structure, and contour. The liver parenchyma was mildly nonuniform and hypoechoic to the spleen with a moderate coarse echotexture and subjective mild to benign parenchymal remodeling. A subtle isoechoic to microcystic nodule was noted in the deep mid liver measuring 1.3 cm diameter. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non distended in size with mild, echogenic, nonmineralized biliary sludge. The cystic duct and common bile ducts were normal without evidence of dilation.
<b>INTERPRETED BY</b>	<b>Gastrointestinal</b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained echogenic, nonshadowing ingesta most consistent with post prandial presentation without signs of ileus, obstruction or foreign material.
<b>IMAGING PERFORMED BY</b>	
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<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.
New Bridge VP	Normal visible colon wall layers were present with apparent formed feces in lumen.
<b>REFERRING VET</b>	<b>Pancreas</b>
Dr. Glennon	The left limb, right limb, and base of the pancreas presented hypoechoic to heterogeneous echogenicity compared to adjacent omental fat. Mild asymmetrical capsule margination was present with mild variable parenchymal swelling and mild peripancreatic inflammation. No overt evidence of neoplasia.
<b>INVOICE</b>	<b>Free Abdomen</b>
25124	No overt lymphadenopathy or peritoneal effusion was present.
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## REFERRING VET

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## ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- Tricuspid, pulmonic and aortic valve insufficiency
- Chronic active pancreatitis pattern
- Non-specific yet likely benign, focal hepatosplenic nodules
- Gastric ingesta – likely post-prandial presentation
- Subjective mildly prominent bilateral adrenal glands

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with primary eccentric mitral valve insufficiency. Concurrent pulmonic, tricuspid and aortic valve insufficiencies also present, yet not considered clinically significant. No other clinical issues such as systolic dysfunction were noted. The lack of the left atrial enlargement indicates that the current risk of complication is low. No indication for cardiac medications. Continued monitoring for clinical signs consistent with heart disease with recheck echo suggested in 6 months.

The presentation of the liver was not overtly consistent with steroid hepatopathy, yet adrenal testing with ACTH stimulation test in light of diabetes may be considered if clinical suspicion of hyperadrenocorticism, or if difficulty regulating diabetes. Correlation with chronic active pancreatitis pattern with spec cPL may be considered.

For an additional charge, internal medicine consult can be utilized through SonoPath.com. You can select the internal medicine drop down at <http://spa.sonopath.com/>.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. <https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services>

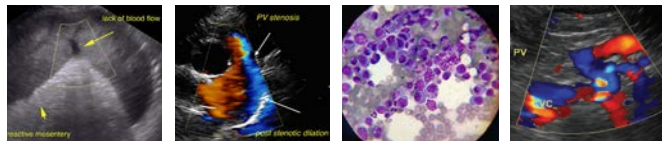


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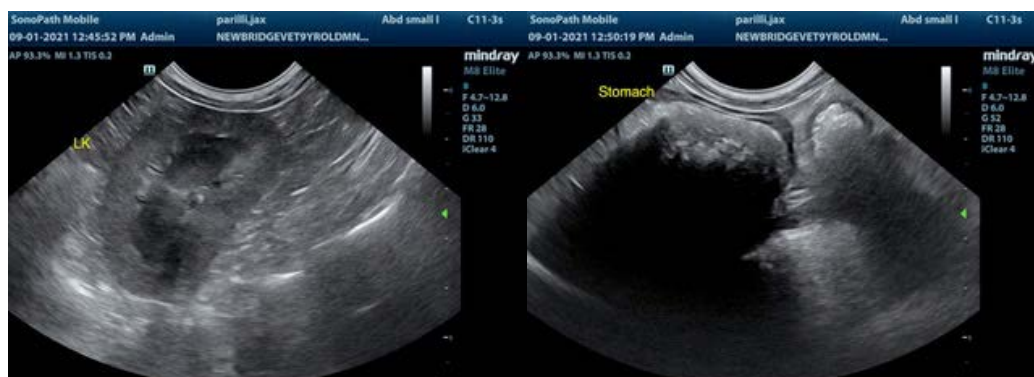
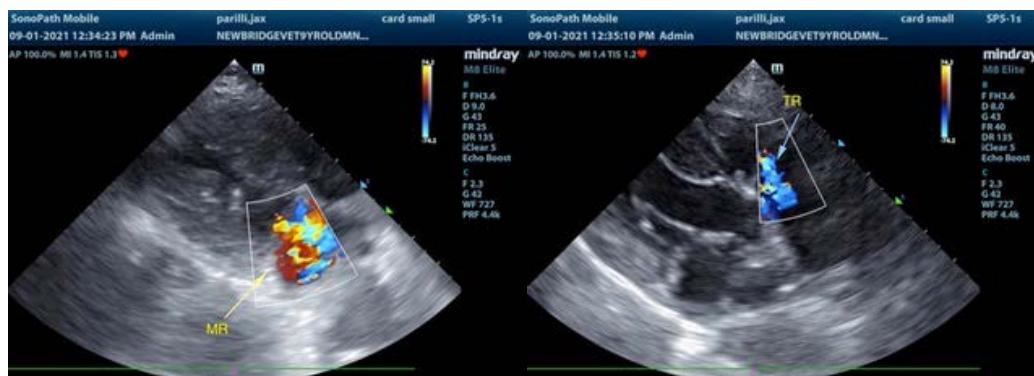
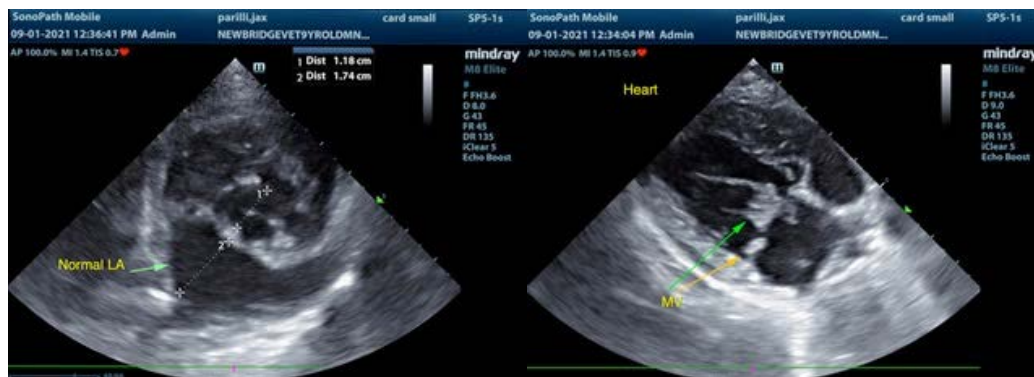
Dr. Glennon

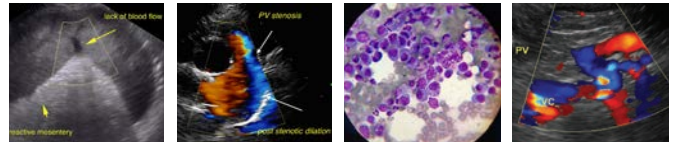
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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