



**PATIENT PRESENTING CLINICAL SIGNS**

Levi Warner Sudden onset lethargy, decreased appetite, abdominal distention. Medication: Clavamox, gabapentin

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN AND HEART**

**SPECIES**

Canine

**BREED**

Golden Retriever

**SEX**

MN

**AGE**

2015

**WEIGHT**

96

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				1.3	35	65	0.25
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		1.1		4.1	4.2	

**Cardiac Presentation**

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT ARDMS/RVT

**HOSPITAL NAME**

Littlestown VH

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08/12/2023

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. No overt MR on Doppler. 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. Normal measured LVOT velocity. 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. Mild TR present on Doppler. 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). Trace pulmonic insufficiency present on Doppler. No visible pericardial or free pleural 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



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papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes were noted.

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Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex with no evidence of pelvic dilation. The left kidney measured 7.3 cm in length. The right kidney measured 7.6 cm in length.

**BREED**

Golden Retriever

The area of the aortic trifurcation was free of pathology.

The area of the residual prostate appeared normal and free of pathology.

**Adrenal Glands**

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The left and right adrenal glands were not definitively visualized. No obvious pathology was present in the area of the bilateral adrenal glands.

**Spleen**

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The spleen exhibited a moderately sized irregular mixed echogenic mass in the mid to caudal spleen measuring 7-8 cm. Regional perisplenic hyperechoic omentum was present. Potential for splenic omental adhesions cannot be definitely excluded. The remainder of the spleen was sonographically unremarkable.

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**Liver/Gallbladder**

The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with thin walls and primarily anechoic luminal content. The cystic and common bile ducts were normal.

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**Gastrointestinal**

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained moderate non-shadowing ingesta sonographically suggestive of food with no signs of ileus, obstruction or foreign material.

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.

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Normal visible colon wall layers were present with apparent formed feces in lumen.

**Pancreas**

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.

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**Free Abdomen**

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No omental masses or overt lymphadenopathy was present.

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**PATIENT** Mild volume peritoneal effusion was present.

Levi Warner **ULTRASONOGRAPHIC FINDINGS**

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- Splenic mass with regional perisplenic peritonitis.
- Mild volume peritoneal effusion.
- Sonographically unremarkable liver-no overt evidence of nodules/masses or congestive criteria.
- Normal cardiac structure/function.
- Mild TR-no evidence of clinical pulmonary hypertension.
- Trace pulmonary insufficiency.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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Although histopathology is required for definitive diagnosis, the splenic mass is most suggestive of neoplasia such as sarcoma or other. Benign pathologies are possible yet considered less likely. No evidence of intra-abdominal or cardiac metastatic criteria. The potential for early omental seeding or non-sonographically evident micrometastasis cannot be definitively excluded.

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Three view chest radiographs are recommended if not done to assess for occult thoracic pathology. Laparotomy with splenectomy and gross inspection of the perisplenic omentum and liver is warranted. ECG recommended prior to anesthesia given potential for arrhythmias sometimes associated with splenic disease.

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ARDMS/RVT

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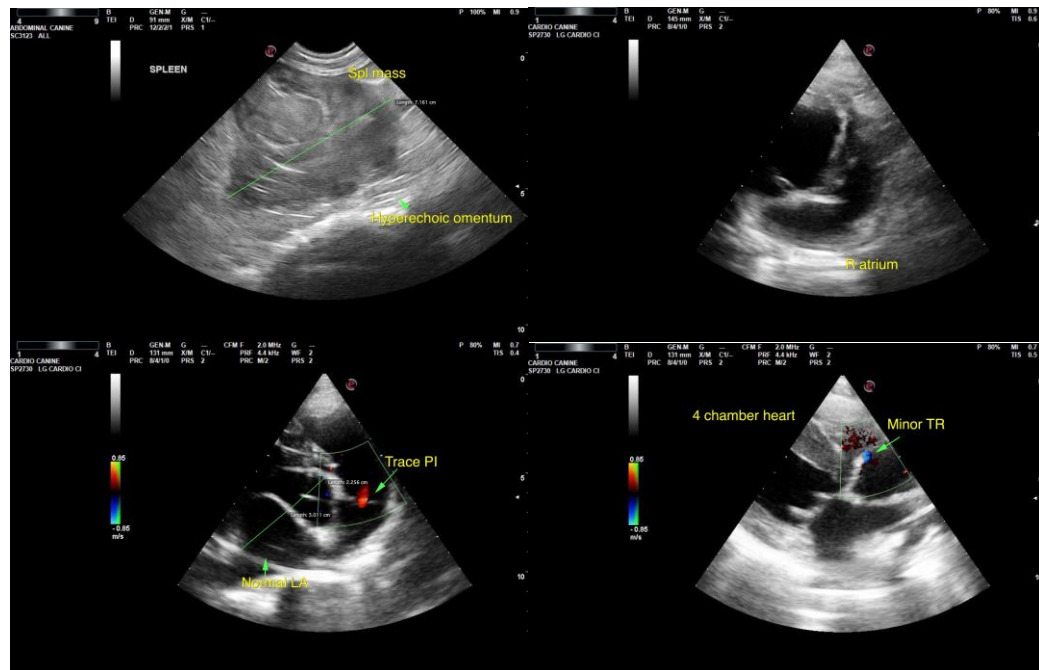
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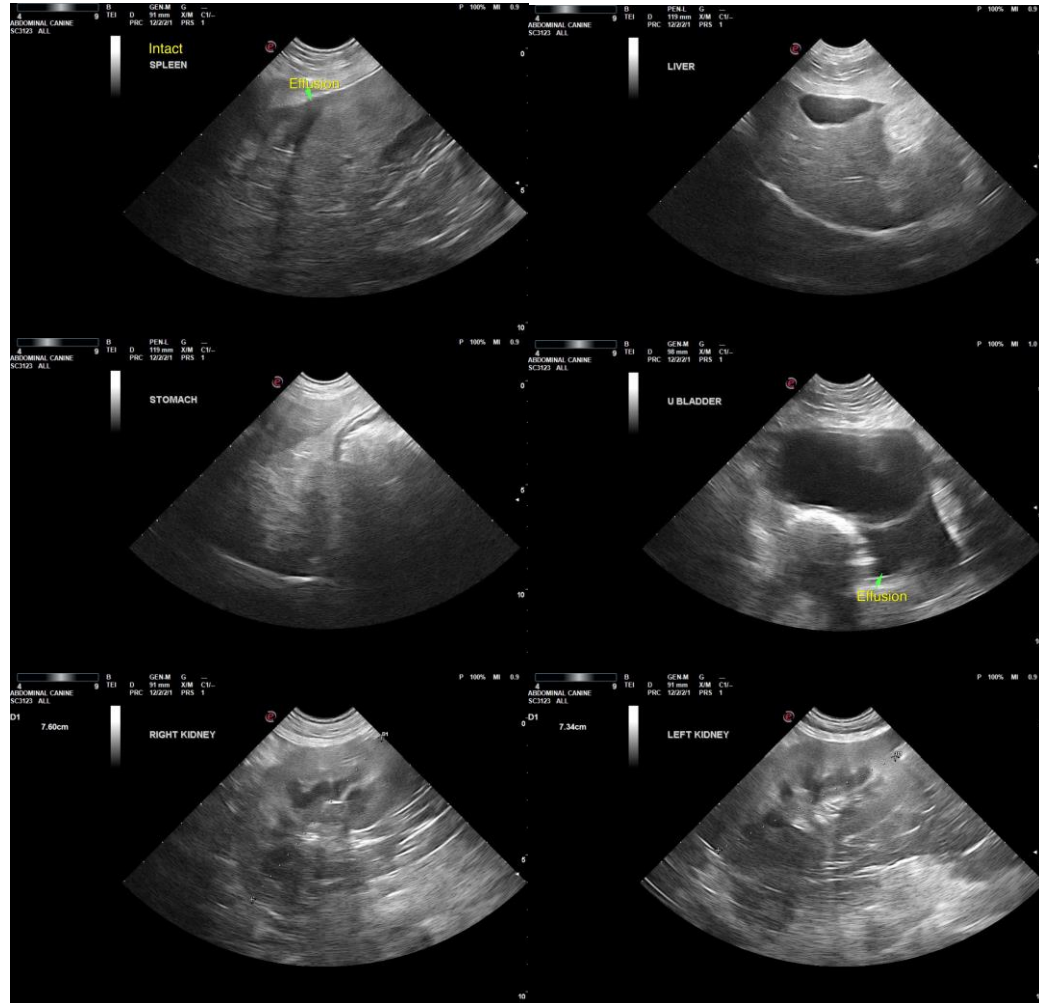
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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](mailto:info@sonopath.com)