



**PATIENT**

Ferris Greenberg

**SPECIES**

Canine

**BREED**

Tibetan Terrier X

**SEX**

Neutered Male

**AGE**

10.5 Years

**WEIGHT**

27 Pounds

**INTERPRETED BY**

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

**IMAGING PERFORMED BY**

Shari Reffi, CVT

**HOSPITAL NAME**

Marsh AH

**REFERRING VET**

Dr. Milwicki

**INVOICE**

45522

**DATE**

2/27/23

**PRESENTING CLINICAL SIGNS**

Chronic pancreatitis on and off since 12/2020. No current meds.  
Abnormal PE/Chem/CBC/UA Results: Pending

**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	<1.6	28-40	40-100	<0.6
PATIENT	5.2		1.4	1.4	34	63	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	BELOW	BELOW	BELOW	BELOW
PATIENT	99	1.3	0.76		2.9	2.9	

**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 mild thickening consistent with mild endocardiosis. No evidence of valvular prolapse. Doppler indicated measurable mild 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 flow and subjective structural integrity. 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. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** 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. 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.

The residual prostate was free of pathology.



<b>PATIENT</b>	The area of the aortic trifurcation was free of pathology.
Ferris Greenberg	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. Minor discreet medullary mineral noted in both kidneys. The right kidney measured 4.5 cm. The left kidney measured 4.9 cm.
<b>SPECIES</b>	
Canine	
<b>BREED</b>	<b><i>Adrenal Glands</i></b>
Tibetan Terrier X	The adrenal glands were uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 1.6 cm length x 0.46 cm at the caudal pole. The right adrenal gland measured 2.2 cm length x 0.50 cm at the caudal pole.
<b>SEX</b>	<b><i>Spleen</i></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 without evidence of nodular changes. 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>	<b><i>Liver</i></b>
10.5 Years	
<b>WEIGHT</b>	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 mild non-organized echogenic debris. The cystic duct and common bile ducts were normal without evidence of dilation.
27 Pounds	
<b>INTERPRETED BY</b>	<b><i>Gastrointestinal</i></b>
R. McKenzie Daniel, DVM, DABVP (Canine and Feline)	
<b>IMAGING PERFORMED BY</b>	The stomach presented intact wall layering with a normal wall layer ratio. Mild retained anechoic fluid noted.
Shari Reffi, CVT	The intestinal walls demonstrated intact wall layering and maintained 1:3 muscularis / mucosa ratio. The mucosa exhibited mild decreased echogenicity. Minor segmental duodenojejunal ileus noted, consisting of mild fluid accumulation in the intestinal lumen was present without obstruction or foreign material. Mild segmental duodenojejunal non-specific discreet hyperechoic mucosal speckling also noted. No obstructive pattern.
<b>HOSPITAL NAME</b>	
Marsh AH	Normal visible colon wall layers were present with apparent formed feces in lumen.
<b>REFERRING VET</b>	
Dr. Milwicki	<b><i>Pancreas</i></b>
<b>INVOICE</b>	
45522	The pancreas was normal in size and contour with heterogeneous to variably echogenic parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.
<b>DATE</b>	<b><i>Free Abdomen</i></b>
2/27/23	
	Mild enlarged, hypoechoic intermittent mesenteric root lymph nodes were present. The lymph nodes exhibited symmetrical to rounded margination with abnormal width: length ratio (>0.5). The enlarged lymph nodes were bordered by echogenic to reactive mesentery. Example of lymph node measured 2.8 cm x 0.90 cm.



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**ULTRASONOGRAPHIC FINDINGS**

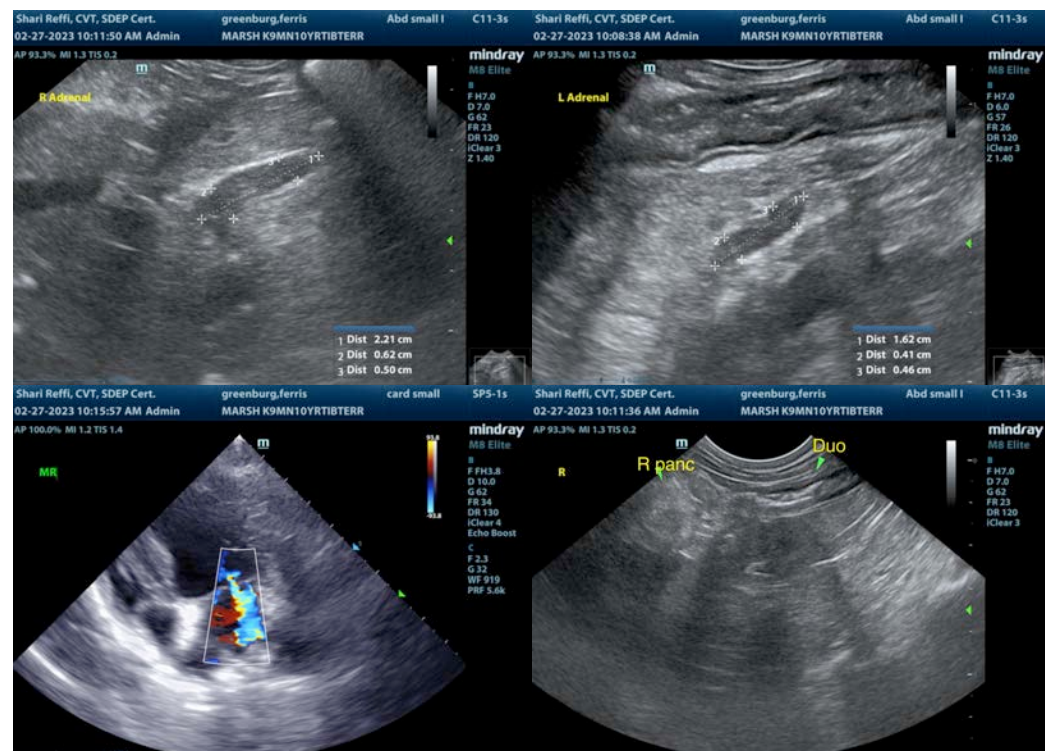
- Mild eccentric MR, normal left atrium (ACVIM B1 MVD)
- Heterogeneous to variably echogenic remodeling pancreas
- Subjective gastroenteritis pattern with possible mild gastric hypomotility
- Mild age related kidneys with discreet medullary mineral ‘
- Mild gallbladder debris (non-mucocele)

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The lack of left atrial enlargement indicates that the risk of complications secondary to MR is low. No overt indication for cardiac medications. No additional clinical issues noted. Recheck echocardiogram recommended in 8-12 months, sooner if clinical signs arise.

Sonographically, the appearance of the pancreas is consistent with chronic pancreatitis criteria with minor remodeling and without evidence of active significant inflammatory or neoplastic criteria. The possibility of concurrent chronic gastrointestinal disease could be a consideration in this patient if chronic or recurring gastrointestinal signs. Correlation with pending lab work +/- GI panel to include PLI, TLI, cobalamin or folate could be considered.

Empirically, gastroprotectants, bland low-fat or possible hydrolyzed diet trial (if clinical gastrointestinal signs or chronic pancreatitis) may prove beneficial.





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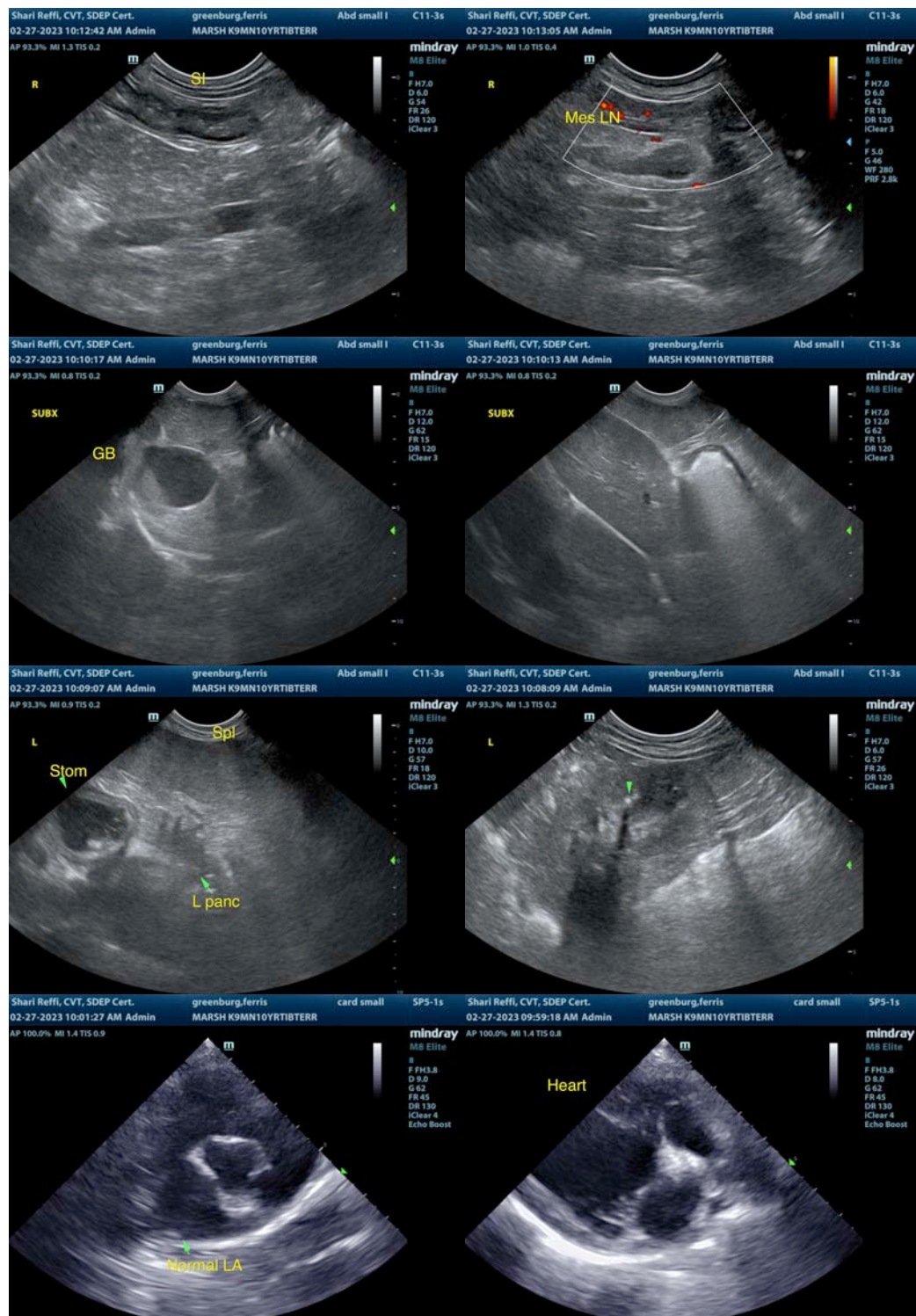
Dr. Milwicki

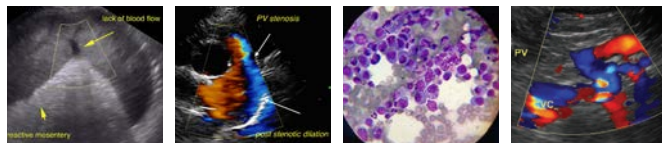
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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