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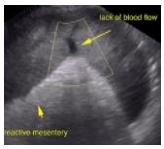
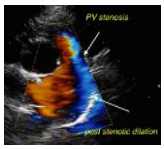
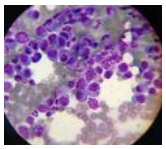
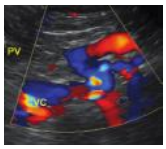

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1-800-838-4268 info@sonopath.com

PATIENT

Minka Ahar

SPECIES

Canine

BREED

Mix

SEX

FI

AGE

8 years

WEIGHT

38.4 lb

INTERPRETED BY

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

IMAGING PERFORMED BY

Diane McFadden

HOSPITAL NAME

Legacy Animal Hospital

REFERRING VET

Dr. Potenzone

INVOICE

10794ag

DATE

06/13/2022

PRESENTING CLINICAL SIGNS

History: Found on the street, no owner; fecal neg, has been dewormed. Emaciated; heart murmur, appetite poor, unable to gain weight. not on any meds.

Abnormal PE/Chem/CBC/UA Results: elevated BNP 1544; RBC 4.8, HCT 34.5% , HGB 12.0, Alb 2.6

ULTRASONOGRAPHIC EXAMINATION OF THE HEART AND ABDOMEN

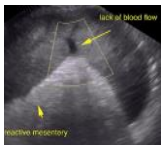
CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.3	28-40	40-100	<0.6
PATIENT	5.9		1.22	1.33	33.3	65.6	0.3
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (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	130	1.3	0.8		4.2	4.5	

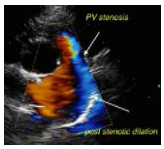
Cardiac Presentation

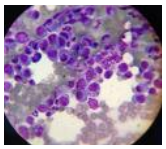
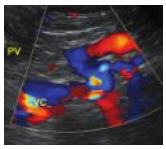
The echocardiogram in this patient demonstrated normal left atrial size based on 3 different LA measurement methods. Chamber volumes and echogenicity were normal. The cranial and caudal mitral valve leaflets presented vegetative thickening consistent with endocardiosis. Doppler indicated measurable eccentric 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 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 evidence of heartworms noted. 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 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or





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

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 6.3 cm in length. The right kidney measured 6.6 cm in length.

The area of the aortic trifurcation was free of pathology.

The visualized uterus was sonographically normal, no evidence of luminal fluid accumulation was present. The visualized left ovary exhibited a thinly walled probable cyst containing anechoic fluid. The left ovary measured 2.0 cm in diameter. The probable left ovarian cyst measured 1.5 cm in diameter. No overt pathology in the area of the right ovary.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.55 cm width at the caudal pole and 2.7 cm length. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.64 cm width at the caudal pole and 2.7 cm length.

Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. 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, neoplastic, or benign parenchyma changes were not noted.

Liver

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 with moderate nonmineralized nonorganized debris primarily in the mid to cranial lumen. The cystic and common bile ducts were normal.

Gastrointestinal

The stomach presented intact yet mildly prominent wall layering with a normal wall layer ratio. The lumen of the stomach contained a mild amount of retained primarily anechoic fluid and minor ingesta with no signs of ileus, obstruction or foreign material. The ventral gastric body wall measured 0.52 cm in width. The pylorus wall measured 0.60 cm in width.

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. The duodenum wall measured 0.3 cm in width. The jejunum wall measured 0.35 cm in width. The ileum wall measured 0.46 cm in width.

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

Pancreas

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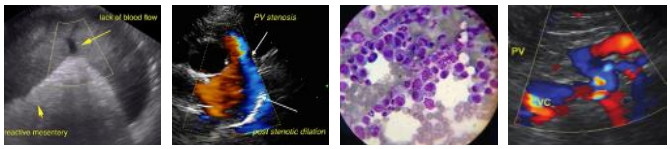

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The pancreas was normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active inflammation or neoplasia.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

Focal to intermittent mildly prominent to enlarged mesenteric nodes were present. The lymph nodes were essentially isoechoic to adjacent omentum without evidence of peripheral inflammation and maintaining a normal width: length ratio (<0.5). An example of a lymph node measured 3.2 cm x 3.77 cm.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1)
- Hypomotile stomach, subjective mild hypomotile gastritis
- Overtly normal small bowel
- Intermittent subjectively benign/reactive mesenteric lymph nodes
- Moderate gallbladder debris-non mucocele
- Cystic left ovary, sonographically unremarkable uterus
- Heterogeneous pancreas

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur is chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. The lack of left atrial enlargement implies that the risk of complication secondary to mitral valve insufficiency is low at this time and, without current clinical signs, indicates that medical therapy is not required. No other clinical issues such as LV systolic dysfunction, pulmonary hypertension or evidence of heartworms were noted. Prognosis at this stage is highly variable, serial sonographic monitoring is required for further prognosis. Conservative monitoring is recommended with a recheck echocardiogram in 6 months, sooner if clinical signs suggestive of heart disease develop.

The potential for more generalized GI disease and/or some contribution to the patient's poor appetite secondary to low grade to chronic pancreatitis possible. A GI panel to include PLI/TLI/Cobalamin/Folate is recommended for further assessment. Assessment of caloric plane and supportive care for gastritis if clinically indicated would be reasonable. Some or all of the following protocol could be considered.

A clinical trial of **Zithromax (*Dogs:*** 5-10 mg/kg p.o. q24h. May increase dosing interval to q48h after 3-5 days of treatment)**, Metronidazole** (10-20 mg/kg p.o. b.i.d.), **Pepcid** (0.5-1 mg/kg s.i.d.) and **Sucralfate** (0.5-2 g/dog PO) or **Omeprazole** (1 mg/kg p.o. s.i.d.) over the next 3 weeks along with a **novel-protein or hydrolyzed diet** with slurry feeding b.i.d./t.i.d. over the next 2-4 days and then increase to canned diet bid. Dry food should be avoided over the next 4 weeks. A recheck sonogram to assess GI improvement or progression would be ideal in 4 weeks.

Although considered unlikely given the normal sonographic adrenal presentation, a resting cortisol level to rule out occult Addison's disease could be considered.

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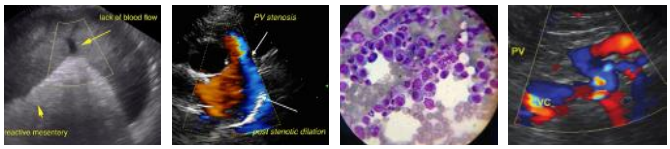

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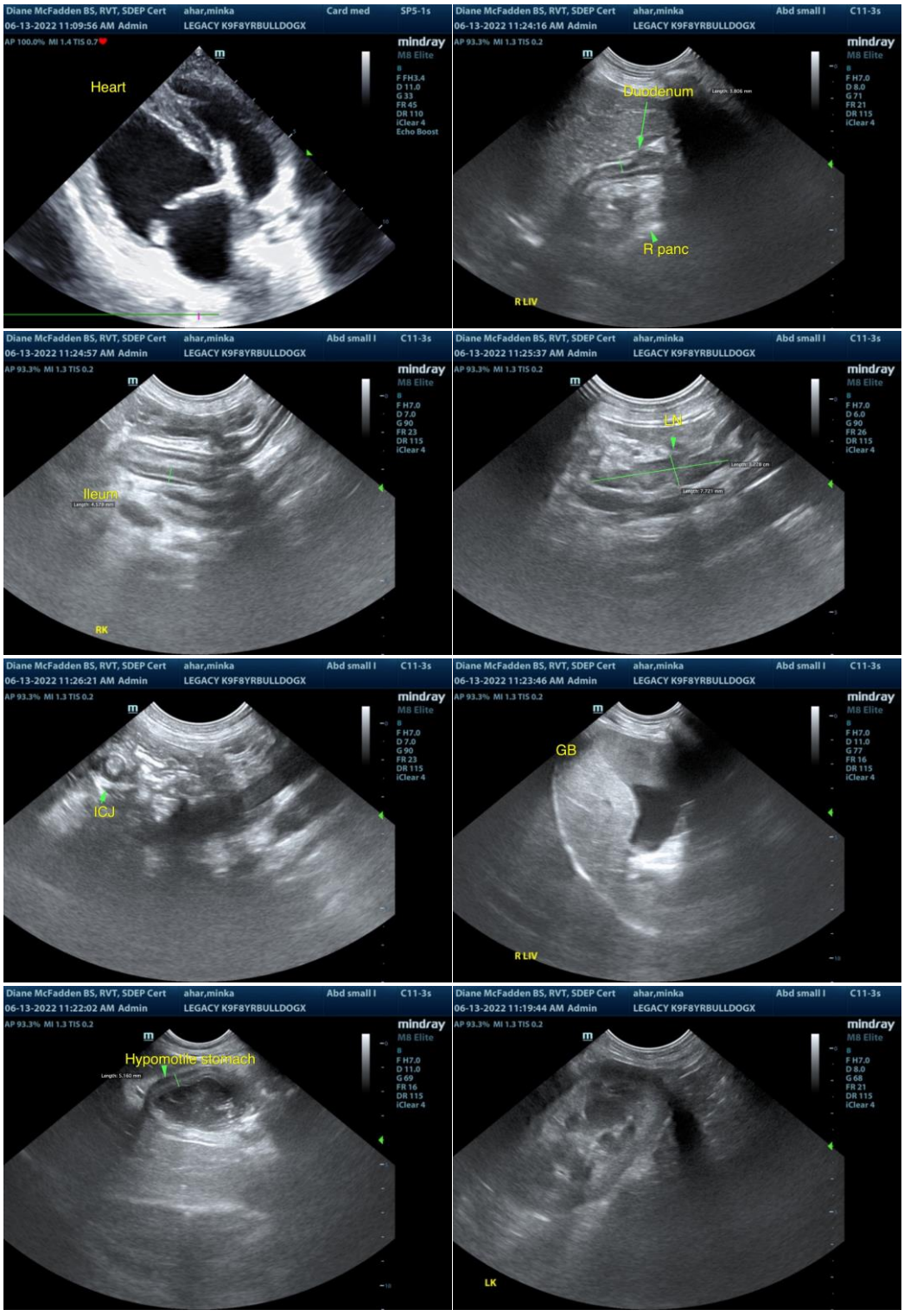

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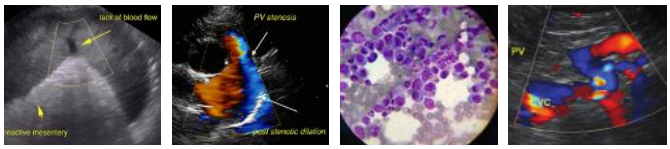

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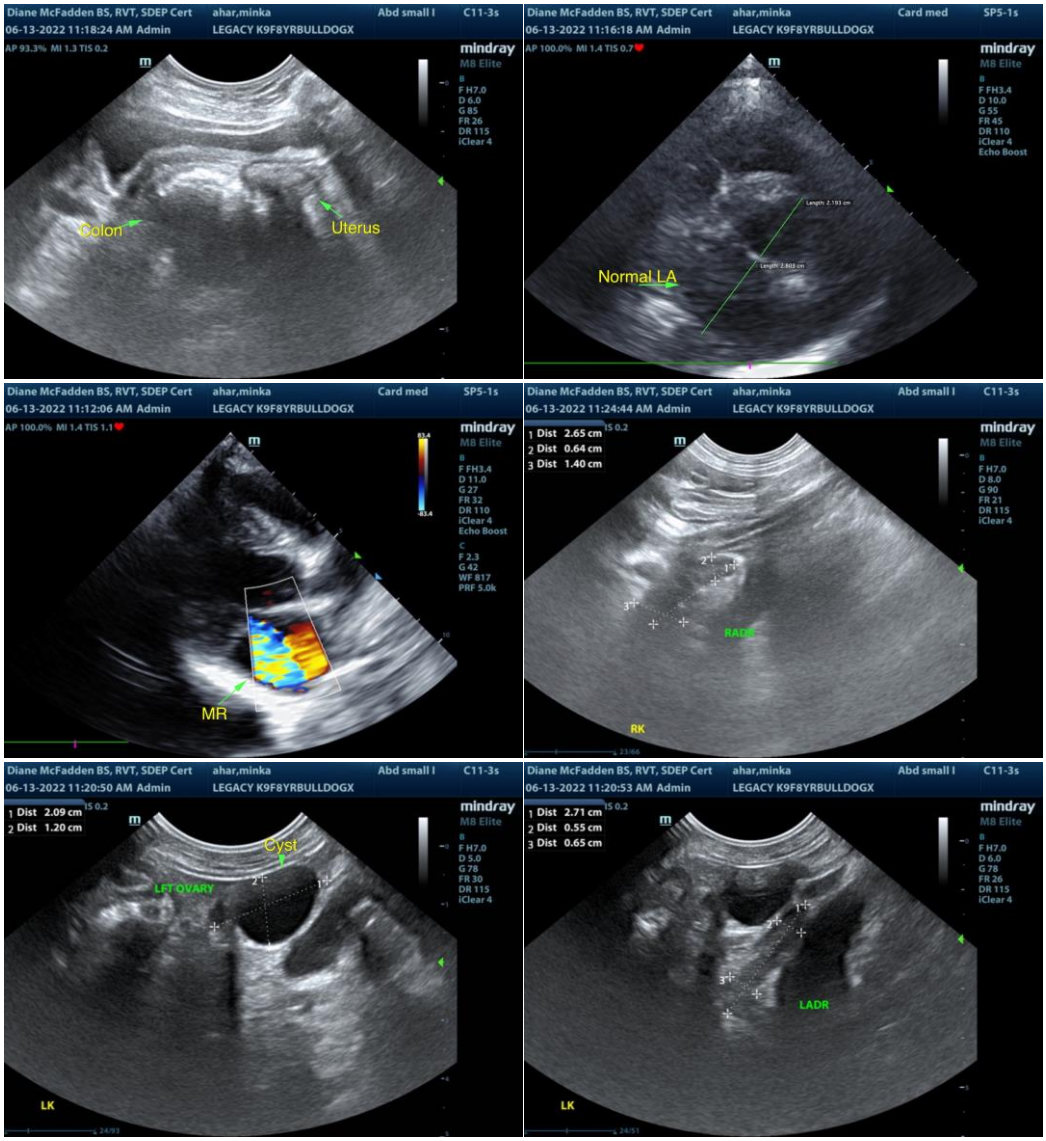

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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