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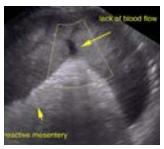
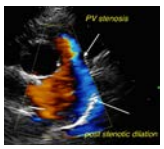
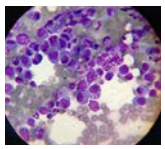
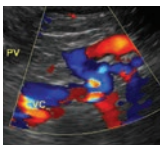
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

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

PATIENT
Jack Wiebel

SPECIES
Canine

BREED
Yorkshire Terrier

SEX
Neutered Male

AGE
9 Years

WEIGHT
9.8 Pounds

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

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Newton Vet Hospital

REFERRING VET
Dr. Kim

INVOICE
33602

DATE
12/20/21

PRESENTING CLINICAL SIGNS

Vomiting, diarrhea, anorexia x 4 days. Current meds: Entyce, Cerenia, Metronidazole, Proviable
Abnormal PE/Chem/CBC/UA Results: nsf

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	5.1	<2.0	1.4	1.5	46.2	81	0.16
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	1.1	0.8		2.9	2.6	

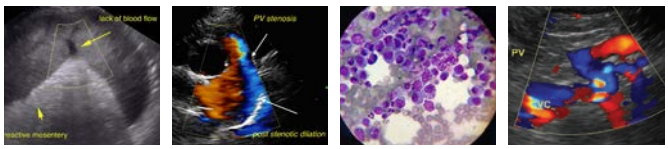
Cardiac Presentation

The echocardiogram for this patient presented mildly excessive **left atrial size** expressed both in the LA/AO and LA max measurements. 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 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 – 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.

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



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loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. The left kidney measured 4.0 cm. The right kidney measured 3.3 cm.

Adrenal Glands

The adrenal glands were uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.41 cm at the cranial pole and 0.49 cm at the caudal pole.

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 mild, non-dependent yet non-organized debris. The presence of gallbladder debris is non-specific and may be owing to decreased food intake/fasting, or may indicate minor non-clinical cholestasis. The cystic duct and common bile ducts were normal without evidence of dilation.

Gastrointestinal

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. Gastric body wall measured 0.33 cm.

The small intestine exhibited generalized intact wall layering and primarily maintained 1:3 muscularis/mucosa ratio with segmental propensity for mildly prominent jejunal mucosa. Ileum walls were intact, yet mildly prominent extending into the ileocolic junction. Jejunum wall measured 0.35-0.45 cm. Ileum wall measured 0.37 cm.

The proximal colon and descending colon exhibited mild yet variable dilation, more prominent in the proximal colon, containing non-formed to liquid feces, consistent with diarrhea. The colon walls were sonographically normal.

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.

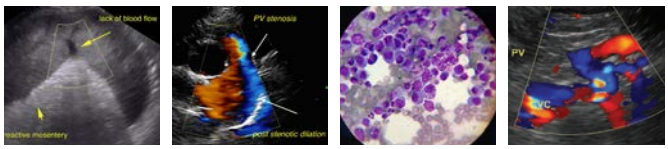
Free Abdomen

A solitary enlarged mid abdominal mesenteric lymph node was present, measuring 2.5 cm x 0.88 cm. These lymph nodes were homogenous, mildly hypoechoic and smoothly marginated. A normal width: length ratio was maintained (<0.5). Evidence of perilymphatic inflammation was evident.

No effusion.

ULTRASONOGRAPHIC FINDINGS

- Chronic mitral valve disease (ACVIM B1/early B2)
- Acute gastroenteritis pattern with mild to moderate ileitis and possible typhlitis



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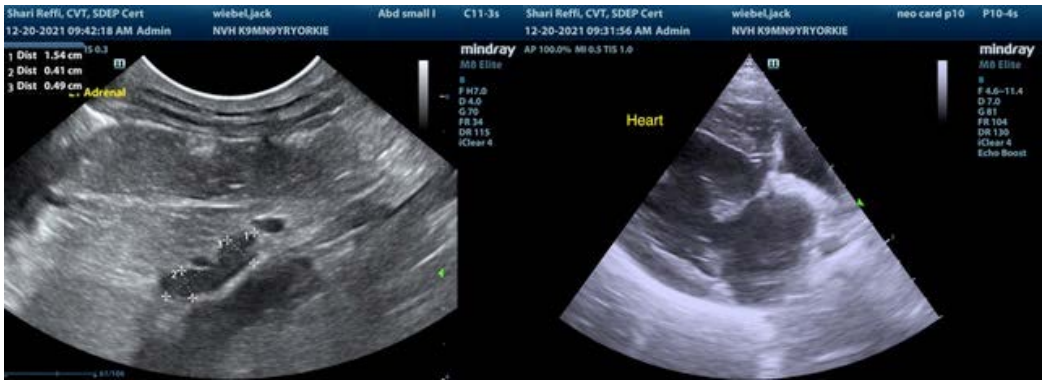
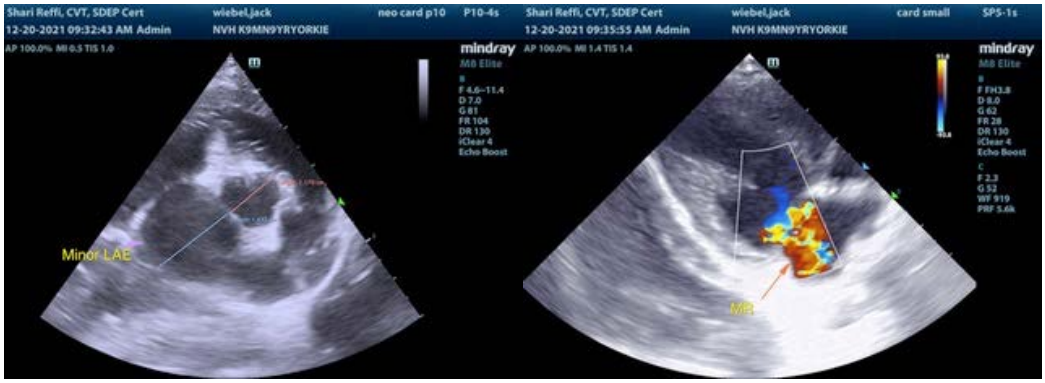
- Associated focal mesenteric lymphadenopathy – suspect lymphadenitis owing to inflammatory bowel episode.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The cause of the murmur (if present) is secondary to subjective mild chronic degenerative valvular changes with secondary eccentric mitral valve insufficiency. No other clinical issues such as systolic dysfunction or evidence of clinical pulmonary hypertension were noted. In a non-clinical patient without evidence of significant left atrial enlargement, cardiac medications are not overtly indicated. Conservative monitoring of the murmur would be appropriate at this time. However, prognosis is variable, and sonographic monitoring is recommended for further prognosis. Recheck echocardiogram suggested in 6 months, sooner if clinical suggestive of heart disease develop.

Continued conservative therapy for suspected acute inflammatory bowel episode would be appropriate. However, if previous or recurrent gastrointestinal signs, additional considerations may include mild pancreatitis (which may presents sonographically normal), dysbiosis, food intolerance/dietary hypersensitivity, inflammatory bowel disease, infectious gastroenterocolitis or intestinal neoplasia. Fresh fecal analysis and GI panel to include PLI, TLI, cobalamin and folate could be considered. In addition to the current protocol, a limited antigen or hydrolyzed diet with potential long-term dietary therapy and prophylactic deworming (i.e., Panacur 50 mg/kg PO SID for at least 5 consecutive days with potential repeat protocol in 3 weeks even if fecal testing is negative is suggested.





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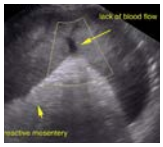
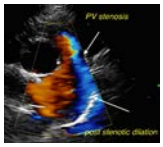
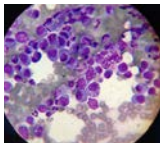
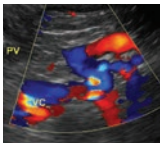

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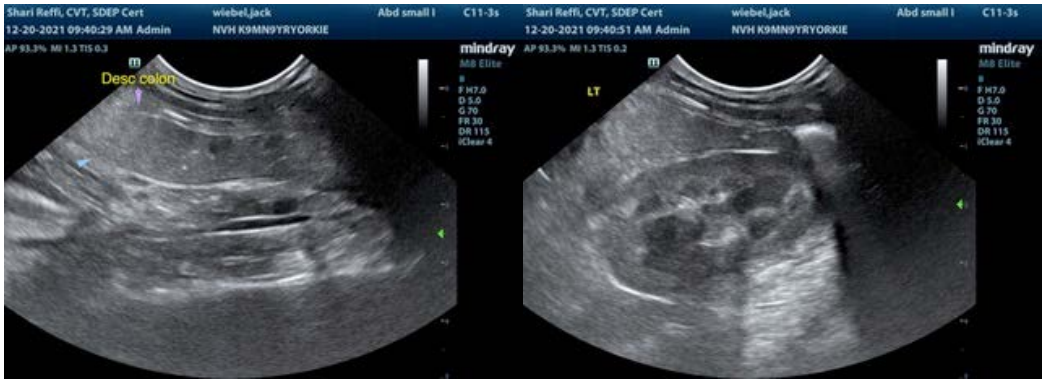

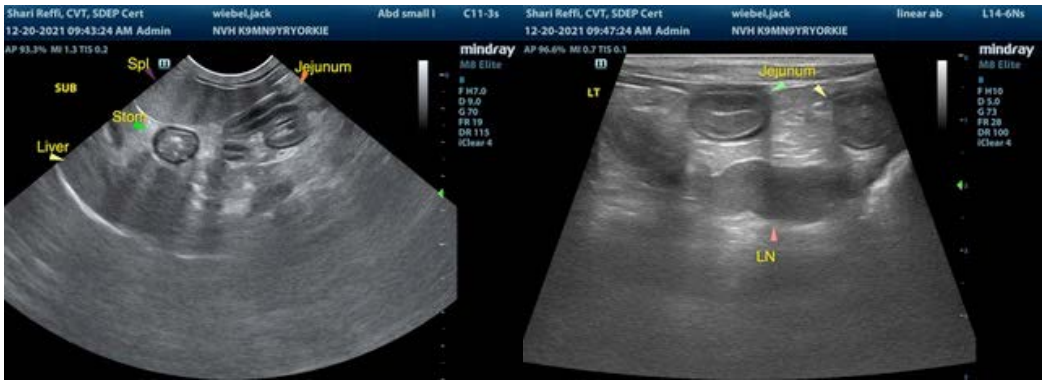

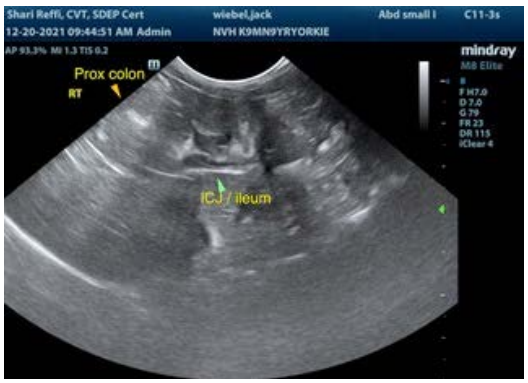

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
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