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Clinical Sonography & Telecytology
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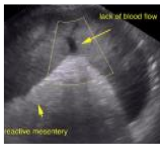
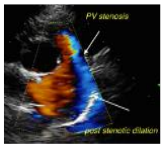
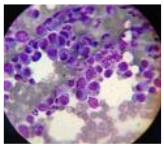
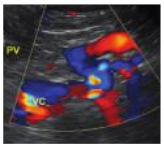





SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Kogi Libo

SPECIES
Canine

BREED
Labrador Retriever

SEX
Intact Male

AGE
1 Year

WEIGHT
72 Pounds

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

IMAGING PERFORMED BY
Shari Reffi, CVT

HOSPITAL NAME
Newton VH

REFERRING VET
Dr. Kim

INVOICE
16265

DATE
6/24/22

PRESENTING CLINICAL SIGNS

History: Ate chicken bones, then lethargic vomiting, diarrhea, febrile (T 104.6), tachycardic, neutropenic. No evidence of obstruction on rads. Lyme + a few months ago- treated per O. Abnormal PE/Chem/CBC/UA Results: WBC 2.48, NEUT 0.69, EOS 0, HCT 57.4, ALP 280, NA 136, K 3.4, CL 100.

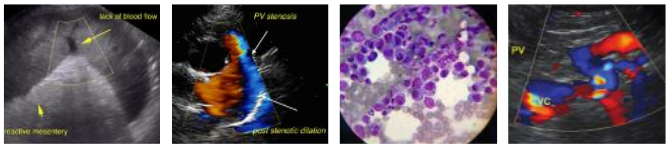
ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN

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	<1.3	28-40	40-100	<0.6
PATIENT	--	--	NM	1.0	44.4	76.9	0.1
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	0.9	--	3.3	3.3	--

Cardiac Presentation

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. The **left ventricle** presented subjective uniform increased thickness with maintained linear contour with mild reduced LV luminal volume. 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. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. 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). No visible pericardial free fluid was noted. Moderate volume free pleural fluid was noted with regional to possible multifocal areas of atypical homogeneous hypoechoic lung tissue, exhibiting multiple areas of air entrapment. The cranial mediastinal pericardial and extracardiac regions were free of overt tumors in the visible window.

Urinary System



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

The prostate was mildly enlarged in size with intact, symmetrical capsule contour. The margins of the gland were intact and able to be differentiated from the surrounding tissue. The prostatic parenchyma was mildly echogenic to heteroechoic without parenchymal mineralization. The prostate measured 4.0 cm x 3.2 cm. This presentation is as expected for a young intact male canine.

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 7.2 cm in length. The right kidney measured 7.2 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.79 cm width at the caudal pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.77 cm width 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 spleen exhibited mild volume contraction. 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 primarily anechoic content with minor nondependent particulate luminal debris. The cystic duct and common bile ducts were normal without evidence of dilation.

Gastrointestinal

The stomach exhibited intact yet mildly prominent wall layering. The stomach was moderately distended. The lumen of the stomach contained a moderate amount of retained anechoic fluid and mild echogenic yet nonshadowing chyme, as well as pockets of luminal gas. No overt evidence of mechanical pyloric outflow obstruction or overt gastric foreign material.

The intestinal walls demonstrated intact wall layering and maintained 1:3 muscularis / mucosa ratio. The mucosa exhibited mild decreased echogenicity with occasional mucosal speckling. A generalized mild duodenal and segmental jejunal ileus pattern consisting of mild fluid accumulation in the intestinal lumen was present. Overt evidence of definitive obstructive pattern or obvious foreign material was not noted.

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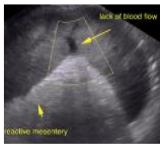
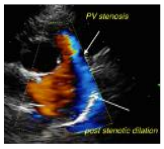
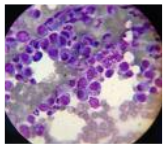
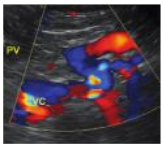

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The colon walls presented intact yet mild prominent wall layering with mild thickened to echogenic submucosa. Mild semi-formed to soft potentially non-formed feces present in the colon.

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

Generalized mild hyperechoic mesentery was noted. No overt evidence of peritoneal free fluid or significant lymphadenopathy.

ULTRASONOGRAPHIC FINDINGS

- Acute generalized gastroenterocolitis pattern with moderate gastric hypomotility
- Associated mild periintestinal reactive mesentery
- Overtly normal cardiac structure and function with subjective mild LV pseudohypertrophy, normal left atrium
- Regional to possible multiregional areas of atypical lung, exhibiting hypoechoic to homogeneous parenchyma with areas of air entrapment- suspect pneumonia or lung lobe torsion as primary etiologies, nonspecific consolidation possible with neoplastic criteria thought less likely
- Noncardiogenic moderate volume pleural free fluid

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No overt evidence of gastrointestinal mechanical obstruction or overt foreign material. Technically, the possibility of small amounts of boney material may be passing yet nonobstructive. No overt indication for immediate surgical intervention. Acute gastrointestinal insult, infectious, gastroenterocolitis, i.e., salmonella, gastroenterotoxic insult are all possible. Continued as needed aggressive therapy for acute gastroenteritis, which may include gastroprotectants, appropriate antibiotics +/- plasma expanders and monitoring of fever and clinical response, would be reasonable.

Thoracocentesis for effusion analysis cytology +/- culture and sensitivity, if evidence of inflammatory cells, is recommended. No overt evidence of a diaphragmatic hernia. Continued respiratory supportive care, diagnostic or potential therapeutic thoracocentesis +/- thoracic CT for further assessment is warranted.

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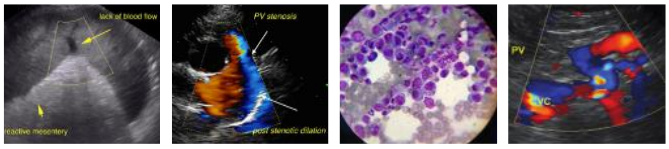

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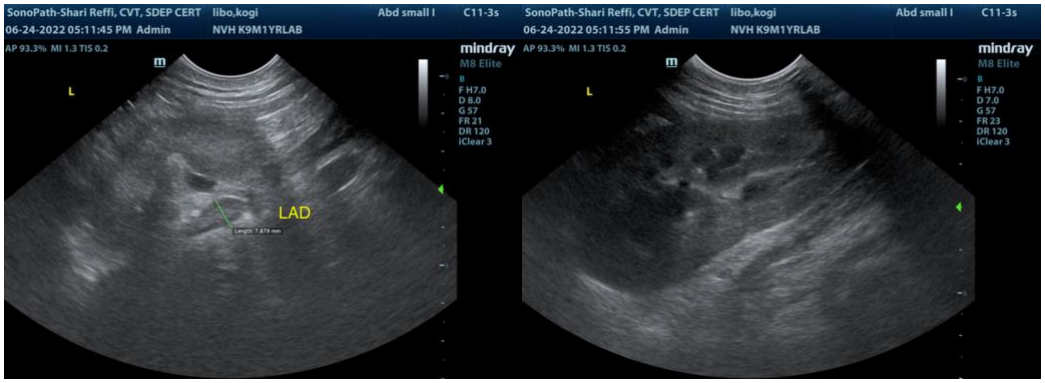

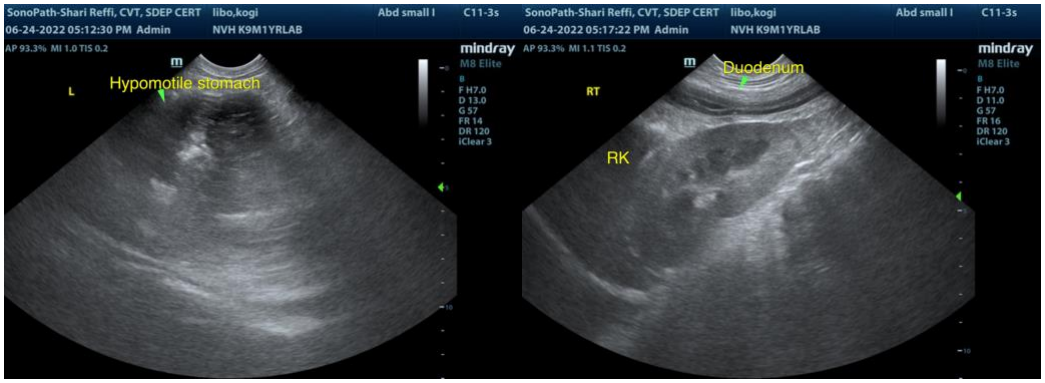

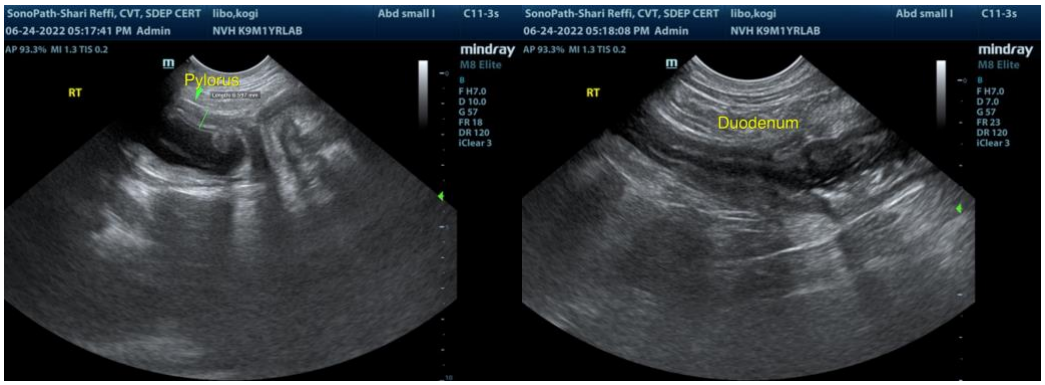

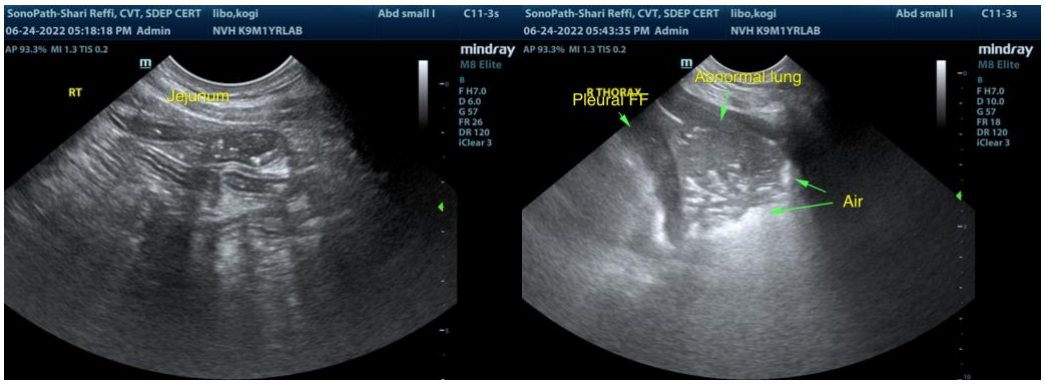

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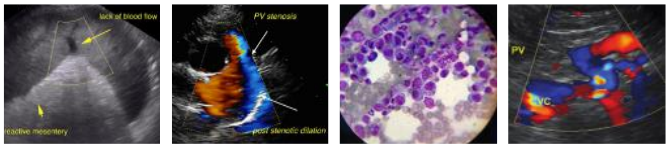

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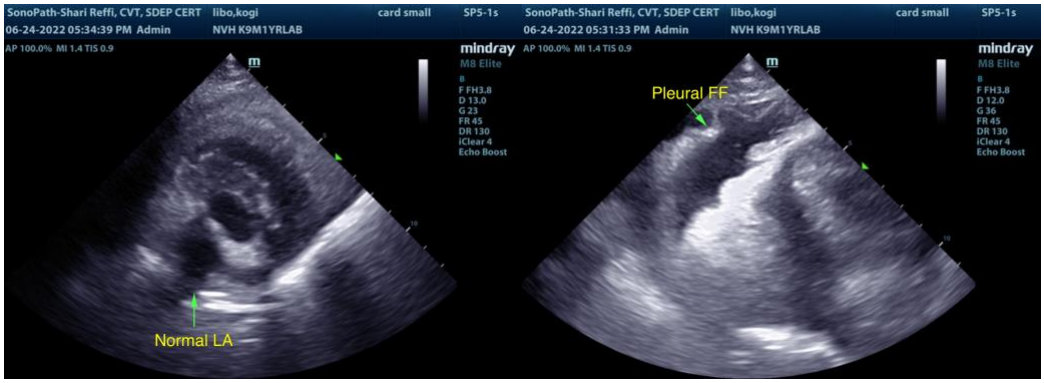

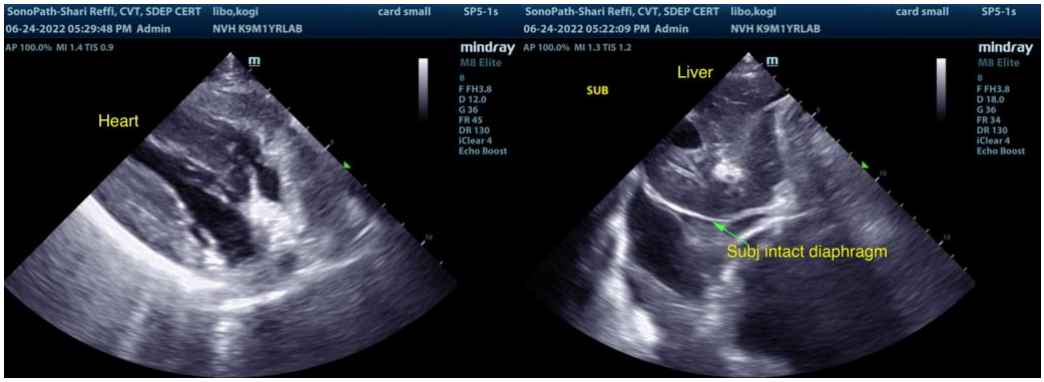

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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