SonoPath
Clinical Sonography & Telecytology
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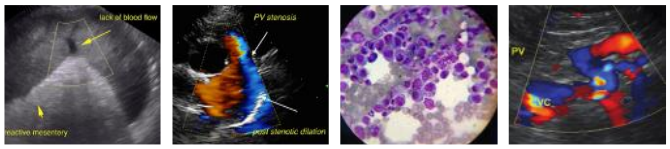


SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Winnie Forrest

SPECIES

Canine

BREED

Jack Russell Terrier

SEX

FS

AGE

2yr

WEIGHT

6kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Dr. Guenther

HOSPITAL NAME

Central Island Veterinary Emergency

REFERRING VET

Dr. Guenther

INVOICE

13171ag

DATE

03/15/2023

PRESENTING CLINICAL SIGNS

P recently hospitalized for bout of PLE/gastroenteritis. Had concurrent UTI. Both gastroeneteritis (and hypoprotenienemia) and UTI have resolved however P is now PU/PD. No vomiting, eating well, energy normal. Incidental new bloodwork changes found on recheck.

Abnormal PE/Chem/CBC/UA Results: Normal PE. CBC - mild lymphopenia/monocytopenia. Neutrophils wnl. Chem - ALT 620, ALP 394, GGT 40, TBil wnl, Crea low (26), TP 54g/L w/ normal Alb/Glob. UA - hyposthenuria (1.005) w/ pH 8.0 otherwise wnl. Bile Acids 54.9 (pre), 51.1 (post) Baseline Cortisol was done March 2 during gastroeneteritis episode and was 192.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 3 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 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 4.6 cm in length. The right kidney measured 4.7 cm in length.

The area of the aortic trifurcation was free of pathology.

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 2.1 cm length. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.58 cm width at the caudal pole and 2.1 cm length.

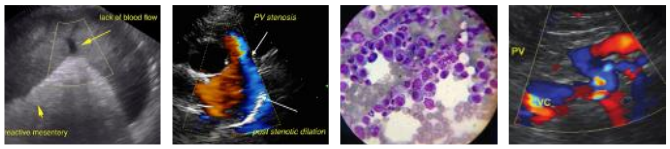
Spleen

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/Gallbladder

The liver presented mildly enlarged in size. The parenchyma of the liver was subjectively normal in echogenicity compared to the spleen and renal cortices. The liver parenchyma was uniform with a mildly coarse echotexture. The capsule of the liver was symmetrically rounded to mildly swollen in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The visualized portal vein appeared to exhibit normal volume compared to the caudal vena cava with laminar portal vein blood flow. The gallbladder was non-distended in size with primarily anechoic luminal content. The cystic and common bile ducts were normal.

Gastrointestinal



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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.

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.

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.

Free Abdomen

No omental masses, overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Benign hepatopathy exhibiting normal hepatic vascular volume.
- Sonographically unremarkable gallbladder.
- Sonographically normal bilateral kidneys/adrenal glands.
- Sonographically unremarkable GI tract/colon.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Overall, no overt evidence of significant abdominal visceral pathology. No evidence of a portosystemic shunt. Considerations for the liver may include vacuolar hepatopathy, inflammatory/immune mediated disease including non-specific hepatitis given the elevated ALT, non-obstructive cholestasis or other hepatopathy. Assuming normal clotting status a hepatic FNA for screening cytology could be considered primarily to assess for evidence of inflammatory criteria. A leptospirosis titer/PCR may be considered if clinically indicated or if potential exposure/endemic to the area.

Hepatic core surgical biopsy may be required for a definitive diagnosis as to whether inflammatory or vacuolar changes are present and assessment for microvascular hepatic abnormality.

Empirically some or all of the following protocol may be considered.

Royal Canin Hepatic Support diet or Hills L/D, Metronidazole (7.5 mg/kg PO bid) over the next 14 days, Lactulose (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a high-quality protein supplement of minor amount of yogurt or cheddar cheese. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAMe and nutraceuticals as needed. Ursodiol (10-15 mg/kg p.o. q24h) can be considered as hepatoprotectant and to enhance bile flow. Zinc serum level keep between 200—500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.

For an additional charge, internal medicine consult can be utilized through Sonopath.com. You can select the internal medicine drop down at http://spa.sonopath.com/.

One of the world's top internists & SonoPath associate Dr. Remo Lobetti BVSc, MMedVet, PhD, DECVIM can evaluate your case through SonoPath. https://sonopath.com/resources/sonopath-services/internal-medicine-teleconsultation-services

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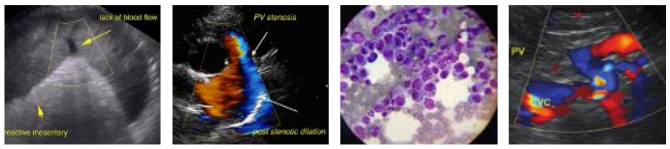

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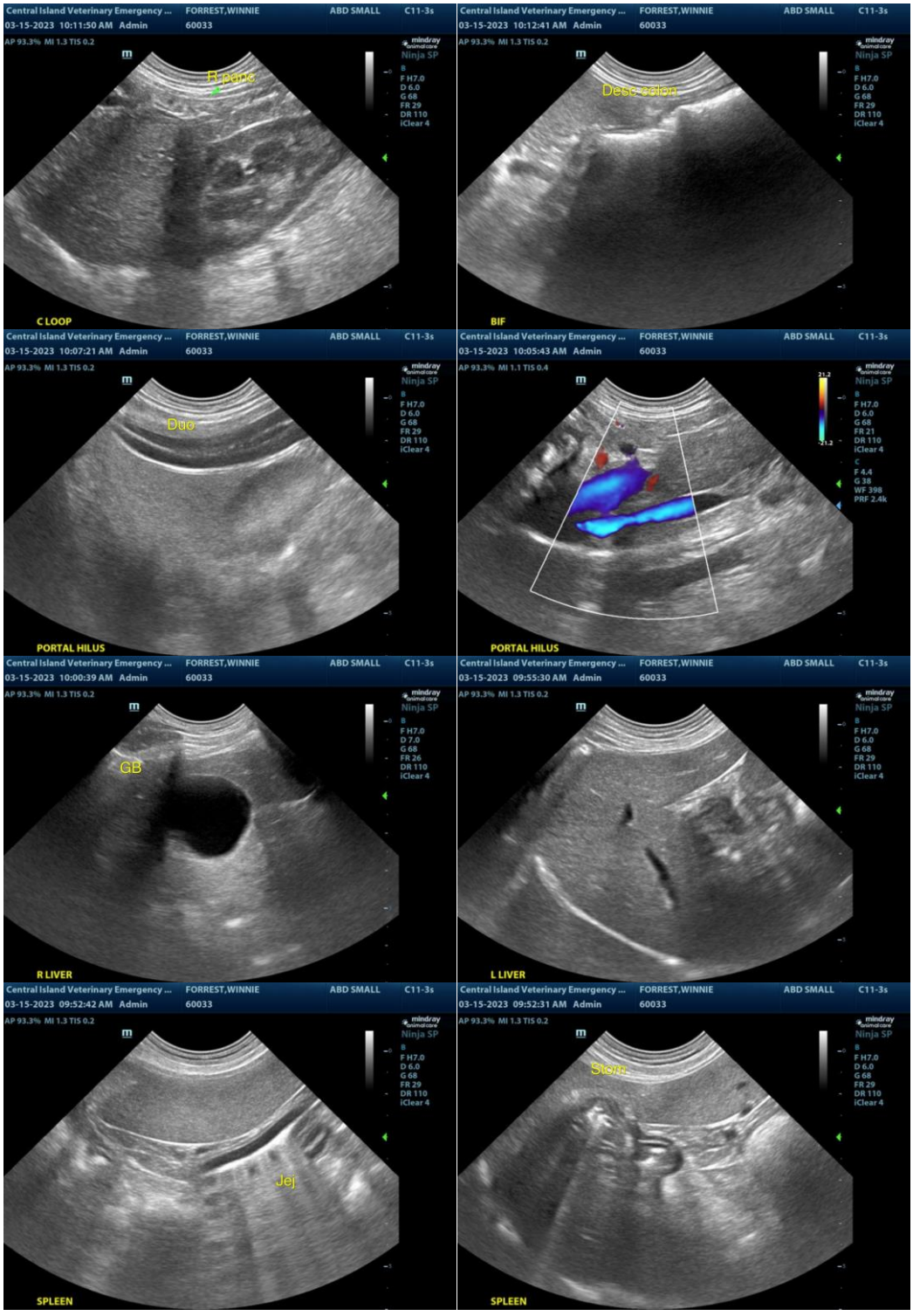

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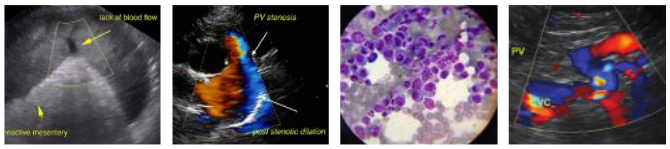

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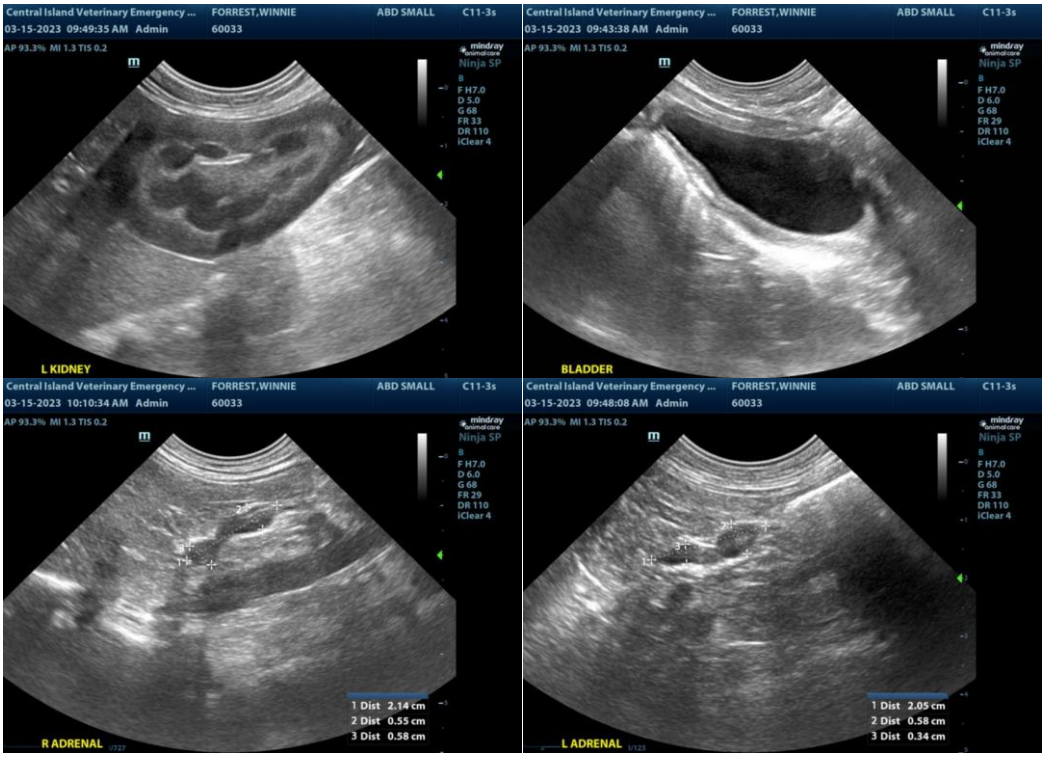

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
mac.daniel@sonopath.com