



PATIENT

Nell Muir

SPECIES

Canine

BREED

Yorkie

SEX

FS

AGE

12yr

WEIGHT

3kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Goeres

HOSPITAL NAME

Kelowna Veterinary
Hospital

REFERRING VET

Carter

INVOICE

14552ag

DATE

08/10/2023

PRESENTING CLINICAL SIGNS

Diarrhea (x 8 days) - there was initially vomiting which resolved ; anorexia for past 8 days ; new aspiration pneumonia in last 12 hrs ; mild pleural and peritoneal effusion - severe hypoproteinemia/hypoalbuminemia. hospitalized on IV fluids, maropitant IV SID, Buprenorphine IV TID, Metronidazole IV BID, Pantoprazole IV BID, Ondansetron IV BID, Ampicillin IV TID, Baytril IV SID,

Abnormal PE/Chem/CBC/UA Results: albumin 16, BUN 16.4, Ca 1.37, Cl 105, TP 40, glob 24 normal cbc

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

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 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 loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of mild pelvic dilation was present. Pinpoint medullary mineral was present. The left kidney measured 3.1 cm in length. The right kidney measured 3.4 cm in length.

The area of the iliac trifurcation was free of pathology including no evidence of medial, iliac or sublumbar lymphadenopathy or masses.

Adrenal Glands

A well-defined, hyperechoic nodule was present in the caudal left adrenal gland with mild associated symmetrical capsule expansion. The nodule did not exhibit signs of mineralization or vascular invasion. The nodule measured 0.62 cm in diameter. The overall left adrenal gland measured 0.63 cm. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.57 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 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 increased in size. The parenchyma of the liver was subjectively increased in echogenicity compared to the spleen and renal cortices. The echotexture of the liver parenchyma was uniform with a mild coarse echotexture. The capsule of the liver was symmetrical in margination. The hepatic and portal vasculature were normal in appearance without signs of congestion. The gallbladder was non-distended in size with primarily anechoic luminal content and moderate non-organized mildly congealed hyperechoic sediment and mucus. The cystic and common bile ducts were normal.



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Gastrointestinal

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The stomach presented variable wall thickening secondary to echogenic mucosa hypertrophy. Intact wall layering was maintained and distinct. Mild gastric distension with primarily anechoic fluid was present.

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The small intestine presented intact wall layering with subjective 1:3 muscularis/mucosa ratio. Segmental intestinal increased mucosa echogenicity was present. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material.

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

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The parenchyma of the pancreas base and right pancreatic limb was hyperechoic to adjacent omental fat with diffuse parenchyma remodeling. The capsule of the pancreas was mildly asymmetrical in contour without evidence of peripancreatic inflammation. These changes may suggest chronic inflammation, fibrosis, or saponification if there is a previous history of pancreatitis. No overt signs of pancreatic neoplasia.

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Free Abdomen

No omental masses or overt lymphadenopathy was present.

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Moderate volume anechoic peritoneal effusion was present. Generalized mild increased omental echogenicity was present.

ULTRASONOGRAPHIC FINDINGS

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R. McKenzie Daniel,
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(Canine and Feline)

- Segmental increased small intestinal mucosa echogenicity- consistent with PLE pattern.
- Mildly thickened gastric wall with mild retained gastric fluid-possible mild hypomotile gastritis vs gastric wall edema and mild functional ileus.
- Mild hepatomegaly with subjective parenchyma hyperechogenicity-no evidence of end stage hepatopathy.
- Immature gallbladder mucocele.
- Bilateral chronic renal changes.
- Possible chronic pancreatitis.
- Caudal left adrenal nodule-probable adenoma.
- Moderate volume anechoic peritoneal effusion.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Assuming no evidence of intrathoracic pathology or significant proteinuria as an obvious cause of the peritoneal effusion or hypoalbuminemia, PLE given the breed is considered most likely. Considerations may include inflammatory bowel disease, lymphangiectasia, infiltrative intestinal neoplasia or other enteropathy. A full UA, C/S and baseline UPC level is suggested. A full thickness intestinal surgical biopsy is required for a definitive diagnosis yet is contraindicated with ALB level <20.

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Part or all of this protocol may be considered based on your clinical impression of the patient:

OBJECTIVE: keep albumin levels > 2 g/dl, avoid thromboembolism and cavitory effusions, monitor concurrent PLN (Wheaton Terrier PLE/PLN) and liver disease:

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Plasma 10 mL / kilogram IV over 4 hours
Or Human albumin 2 ml/kg/h over 10 hours. Total daily volume 20.l/kg/day
And Colloids/Hetastarch

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10 to 20 mL per kilogram per day and dogs
 10 to 15 mL per kilogram per day cats
 (Can bolus first 1/3 of dose over 15 minutes)
 & maintain on LRS maintenance otherwise.

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Metronidazole (10-20 mg/kg po bid)
Famotidine 1 mg/kg lv Im po dc Sid /bid
Sucralfate 0.5-1 g po tid dogs, 0.5 g bid cats in slurry Or Misoprostol 1-5 ug/kg po tid
Diet: Highly digestible high quality protein, low fiber, low fat diet (< 15% of dry matter). Hydrolyzed protein or novel protein. Purina HA or Royal Canine HP or similar.

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Prednisone or prednisolone 2 mg/kg bid x 3-5 days then 2 mg/kg sid. Chlorambucil in refractive severe IBD/alimentary lymphoma cases (monitor cbc for rare bone marrow suppression) 4 mg/m² Q 24-48 hours.

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Cobalamine (B12) 250-1500 ug/dog weekly x 6 weeks.

Calcium supplementation if necessary.

Aspirin 0.5-1 mg/kg/day or Clopidrel (Plavix) 1-5 mg/kg/day

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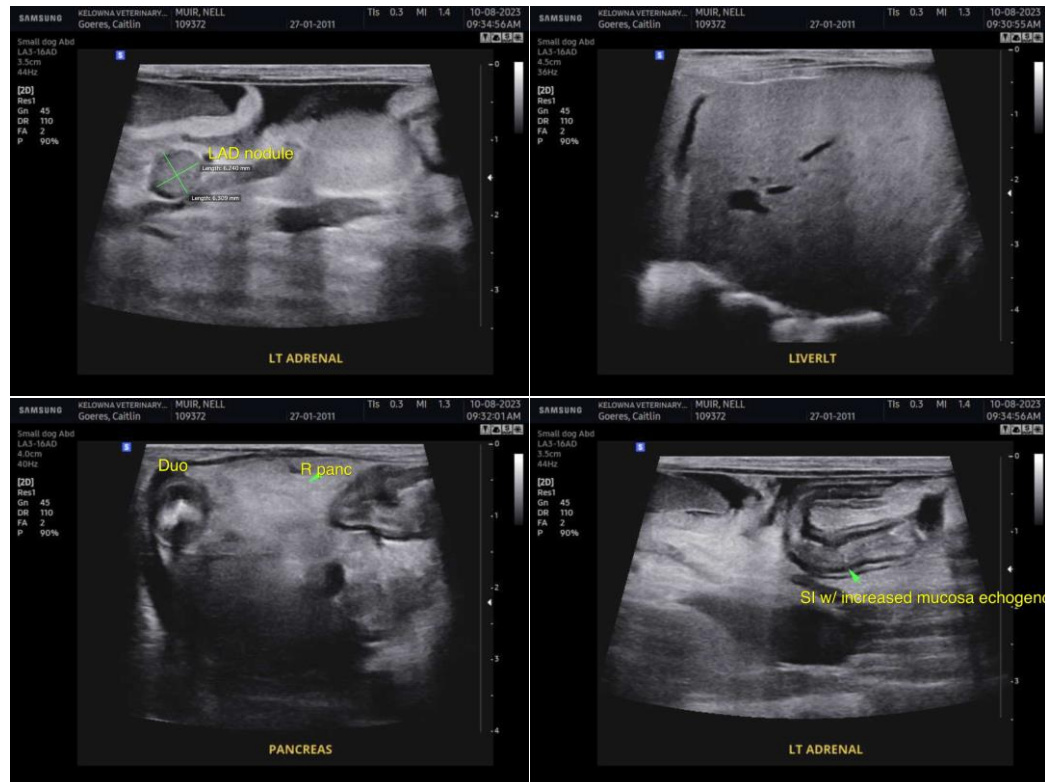
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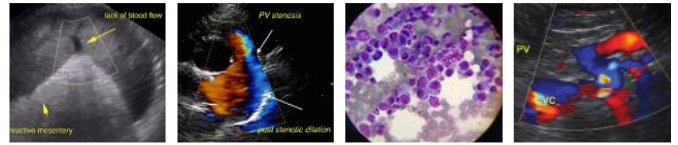
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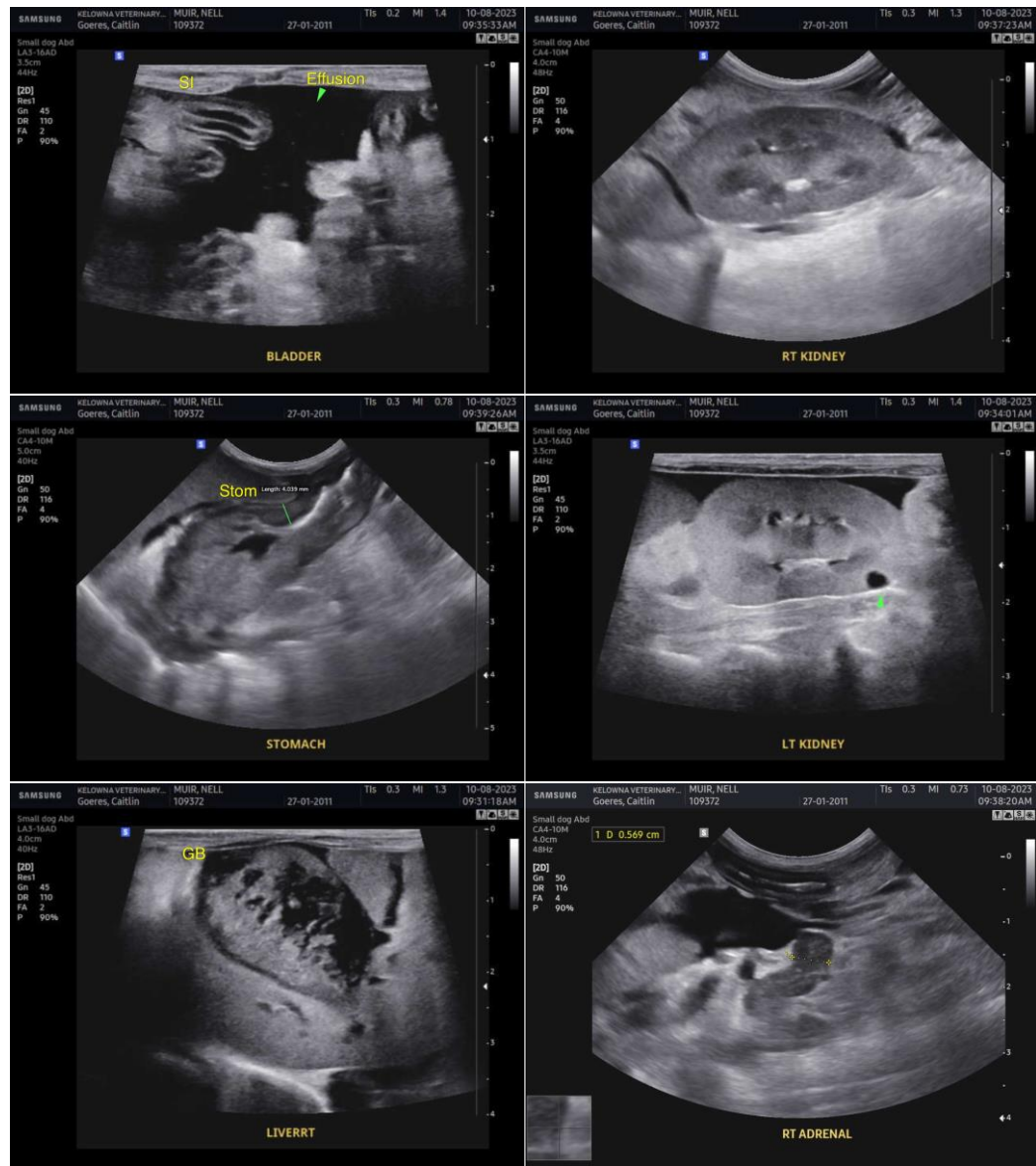
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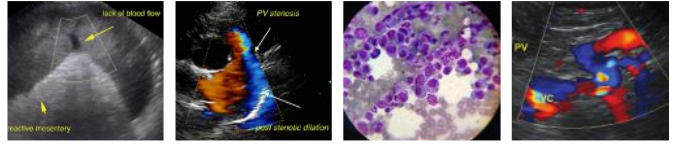
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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



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