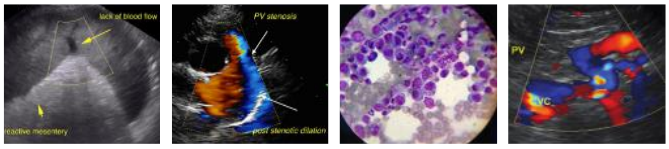
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™



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

PATIENT

Cinder Fox

SPECIES

Canine

BREED

Lab

SEX

FS

AGE

10 years

WEIGHT

30 kg

INTERPRETED BY

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

IMAGING PERFORMED BY

Patti Mayfield DVM

HOSPITAL NAME

La Paw Animal Hospital

REFERRING VET

Stephanie Sur DVM

INVOICE

17940

DATE

11/2/22

PRESENTING CLINICAL SIGNS

Patient was evaluated in late August 2022 for Hx of diarrhea x 2 weeks. She has always had mild, intermittent vomiting, but no increase recently. Patient was initially started on bland diet, Metronidazole and propectalin. She initially improved, but then relapsed on Sept 13, 2022. -- Blood work performed 9/24/22. Based upon those results, added Tylosin, which appeared to worsen the clinical signs (vomiting). 10/11/22 Patient was then started on Pred 10 mg; 1 tab PO BID x 5 days, 1 tab PO q 24 hours indefinitely (attempted to wean down to EOD and diarrhea worsened) B12 chews (2 tabs PO q 24 hours) 10/31/22: Patient presented again for urinary incontinence, but loose stools are improved. Patient has lost 10 # in ~ 6 weeks. Patient was sedated for AUS with dexdomitor/torb (mixed) IV

Abnormal PE/Chem/CBC/UA Results: Physical: Mild LS OU, tense abdomen, but non-painful. Significant weight loss and muscle atrophy in the muscles of mastication. 9/24/22 CBC: - NSF CHEM: - Hypoproteinemia, 2.6 g/dL (5-7.4) - ALB: 1.5 g/dL (2.7-4.4) - GLOB: 1.1 g/dL (1.6-3.6) - MG: 0.9 mEq/L (1.5-2.5) - Ca: 7.3 mg/dL (8.9-11.4); corrected = 9.3 (wnl) T4: wnl Fecal: NEG 10/31/22: UA: yellow, clear, USG: 1.013, pH: 9 - bacteriuria, rods, 51-100/HPF - no pyuria - mild hematuria C/S: pending

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder, trigone and cystourethral junction 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. The urethra exhibited potential mild decreased tone yet normal structure to a depth of 4.0 cm- this may be consistent with patient history of incontinence, correlation with pending urine culture and sensitivity is recommended. No evidence of inflammatory or neoplastic urinary bladder or proximal urethra criteria.

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 pelvic dilation was present. The left kidney measured 6.6 cm in length. The right kidney measured 6.8 cm in length.

Adrenal Glands

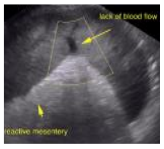
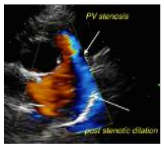
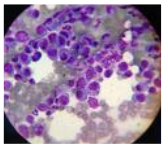
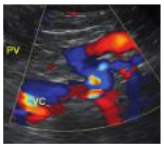
The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 2.2 cm length x 0.55 cm width at the caudal pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 2.4 cm in length x 0.61 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

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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 mildly subnormal in size likely owing to the presence of gastric ingesta.

Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach contained moderate hyperechoic ingesta, exhibiting areas of strong distal acoustic shadowing. No overt evidence of mechanical pyloric outflow obstruction.

The small intestine presented intact wall layering with generalized propensity for mildly prominent mucosal layer, exhibiting segmental to generalized mildly hyperechoic mucosal speckling, striations to segmental mucosal fogging. No evidence of loss of intestinal wall layering or intestinal masses, as well as no evidence of small intestinal mechanical or metabolic ileus.

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 were evident.

Free Abdomen

No evidence of peritoneal free fluid or significant lymphadenopathy. No omental masses.

ULTRASONOGRAPHIC FINDINGS

- Strongly shadowing moderate gastric ingesta. The presence of gastric ingesta may correlate with recent meal ingestion, however, if documented NPO, some degree of possible gastrohypomotility could be present. Technically, the possibility of gastric foreign material cannot be definitively excluded. Monitoring for gastric emptying is advised.
- Enteropathy, exhibiting segmental to generalized mildly hyperechoic mucosal speckling/striations/segmental fogging- sonographically suggestive of PLE pattern. Considerations for the small intestine suggestive of protein losing enteropathy given the appearance in conjunction with panhypoproteinemia may include inflammatory bowel disease, lymphangiectasia, potential for infiltrative enteropathy, i.e., neoplasia (less likely), fungal is possible.
- Mild age-related kidneys

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A GI panel to include PLI/TLI/Cobalamin/Folate +/- resting cortisol level to rule out occult atypical Addisons disease could be considered for further assessment. Intestinal biopsies are required for a definitive diagnosis yet contraindicated with albumin levels <2.0. Empirical PLE therapy and assessment of clinical response would be reasonable. Some or all of the following protocol with as needed gastrointestinal support may be considered.

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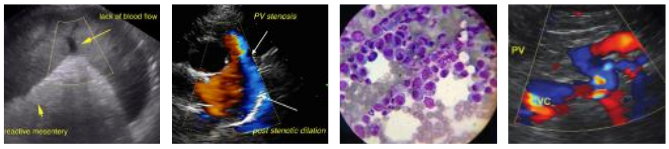

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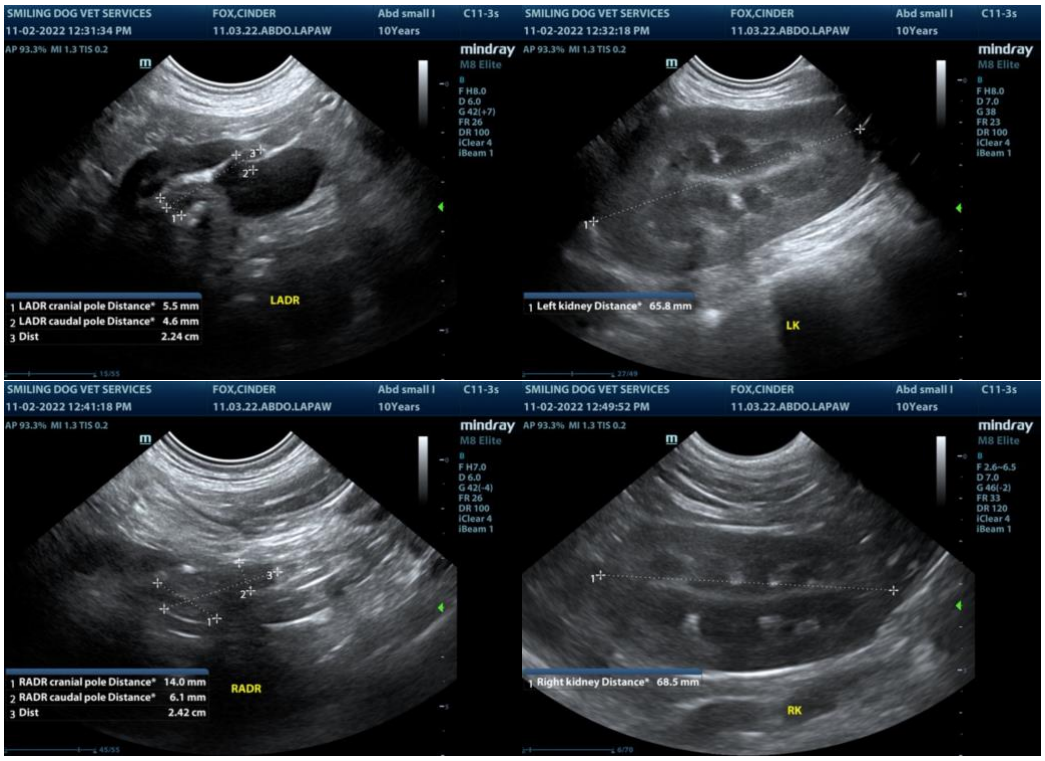
PLE Therapy

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 cavitary effusions, monitor concurrent PLN (Wheaton Terrier PLE/PLN) and liver disease:
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
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.
Metronidazole (10-20 mg/kg po bid)
Famotidine 1 mg/kg Iv 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.
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/m^2 Q 24-48 hours.
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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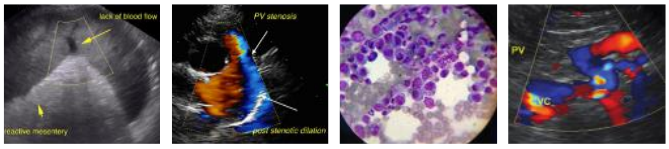

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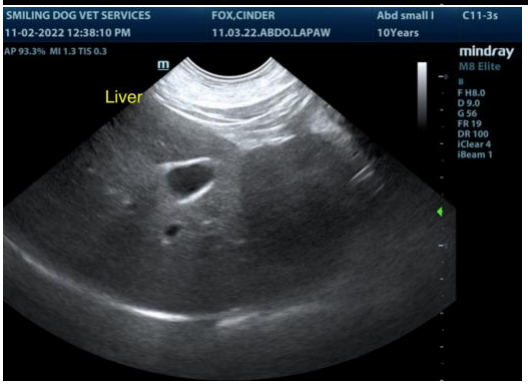

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)
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