

**PATIENT**

Cooper Holst

**PRESENTING CLINICAL SIGNS**

History: Started with diarrhea, once that was cleared up he stopped eating. Hx of elevated kidney values has been on k/d last Chem showed normal kidney values.

**SPECIES**

Canine

Abnormal PE/Chem/CBC/UA Results: Negative diarrhea panel & Giardia CA-4.7 TP-3.1 ALB-1.2 GLOB-1.9 CHOL-81 Xrays: Large amount of ingesta present in stomach. No foreign material visible in lumen of stomach. Small amounts of gas in some loops of small intestine. No severely dilated sections or compartmentalization evident. Oblong pockets of gas in transverse and descending colon; no feces visible. Liver may be enlarged, but it appears more like tail of spleen is situated against caudal margin of liver. Head of spleen appears normal. Urinary bladder appears empty. Kidneys are not seen clearly in either view. Detail seems poorer in R. abdomen. No mass lesion are visible.

**BREED**

Yorkie

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX**

Neutered Male

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 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.

**AGE**

11 Years

The area of the residual prostate appeared normal and free of pathology.

**WEIGHT**

6.6 Pounds

The area of the aortic trifurcation was free of pathology.

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 mild loss of corticomedullary symmetry and definition expected for the age of the patient. No evidence of pelvic dilation was present. Suspect minor medullary mineral present. The left kidney measured 3.3 cm in length. The right kidney measured 3.7 cm in length.

**INTERPRETED BY**

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

**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.53 cm width at the caudal pole and 0.42 cm width at the cranial pole.

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Sarah Pender, CVT

The right adrenal gland was mildly prominent in size yet without overt evidence of neoplastic criteria, measuring 0.66 cm at the caudal pole.

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**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.

**REFERRING VET**

Dr. John Glispie

**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.

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The gallbladder was non-distended in size with thin walls and primarily anechoic content. Mild non-dependent nonorganized luminal debris was present. No evidence of gallbladder or peripheral gallbladder inflammation. The cystic and common bile ducts were normal.

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**PATIENT*****Gastrointestinal***

Cooper Holst

The stomach presented intact yet prominent wall layering owing to mildly prominent gastric mucosa. The stomach was primarily empty with minor retained anechoic fluid. The gastric body wall measured 0.45 cm.

**SPECIES**

Canine

The small intestine presented intact yet segmental to generalized prominent wall layering owing to propensity for mildly prominent mucosa, along with segmental to generalized areas of mucosal fogging. The lumen of the small intestine was empty with no signs of ileus, obstruction or foreign material. The small intestinal wall measured 0.38 cm.

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

**SEX**

Neutered Male

The pancreas was overtly normal in size and contour with isoechoic to heterogeneous parenchyma compared to adjacent omentum. No signs of active or significant pancreatic inflammation or neoplasia.

***Free Abdomen*****AGE**

11 Years

Moderate volume peritoneal free fluid noted, exhibiting echogenic changes, suggestive of cellular component. Generalized hyperechoic mesentery noted. No overt lymphadenopathy or obvious omental masses.

**WEIGHT**

6.6 Pounds

***Other***

The transdiaphragmatic view of the caudal thorax revealed suspected concurrent pleural free fluid.

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

- Moderate volume peritoneal free fluid, exhibiting echogenic changes, suggestive of cellular component
- Prominent yet intact small bowel walls, exhibiting segmental to generalized mild mucosal fogging
- Overtly normal liver without evidence of congestion
- Mild gallbladder debris (non-mucocele)
- Mild chronic renal changes
- Suspect concurrent pleural free fluid

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

In light of the patients breed, in conjunction with previous gastrointestinal signs and panhypoproteinemia, PLE may be a primary differential diagnosis in this case, as a cause of the small intestinal presentation and peritoneal and suspected pleural free fluid. However, the free fluid exhibited echogenic changes suggestive of free fluid cellularity, whereas, typical or free fluid associated with decreased oncotic pressure, secondary to hypoalbuminemia, is generally anechoic. Potential for intraabdominal neoplastic process (i.e., carcinomatosis, lymphomatosis or similar) may be considered an alternative differential diagnosis and cannot be excluded.

Further assessment may include effusion analysis, cytology +/- culture and sensitivity. Radiology review of provided thoracic radiographs suggested.

Pending additional diagnostics, empirical therapy for PLE and as needed gastrointestinal support would be reasonable.



**PATIENT**

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**PLE Therapy**

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

**SPECIES**

Canine

**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

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**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.

**SEX**

Neutered Male

**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.

**AGE**

11 Years

**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<sup>2</sup> Q 24-48 hours.

**WEIGHT**

6.6 Pounds

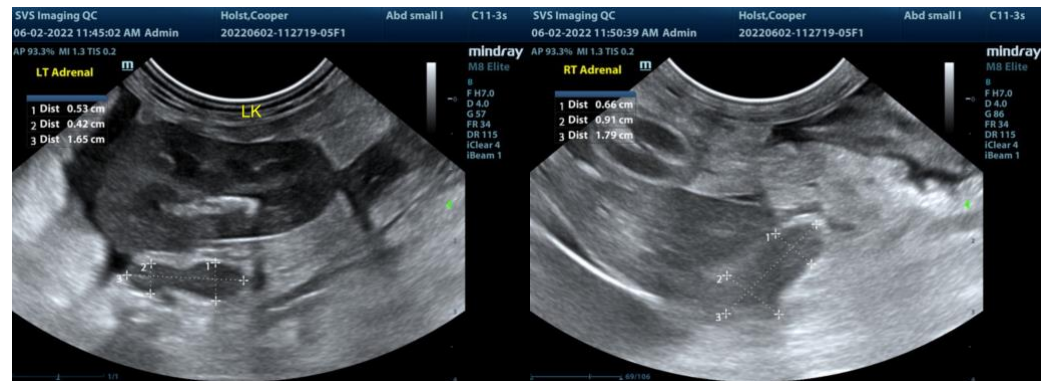
**Cobalamine** (B12) 250-1500 ug/dog weekly x 6 weeks.

**Calcium** supplementation if necessary.

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

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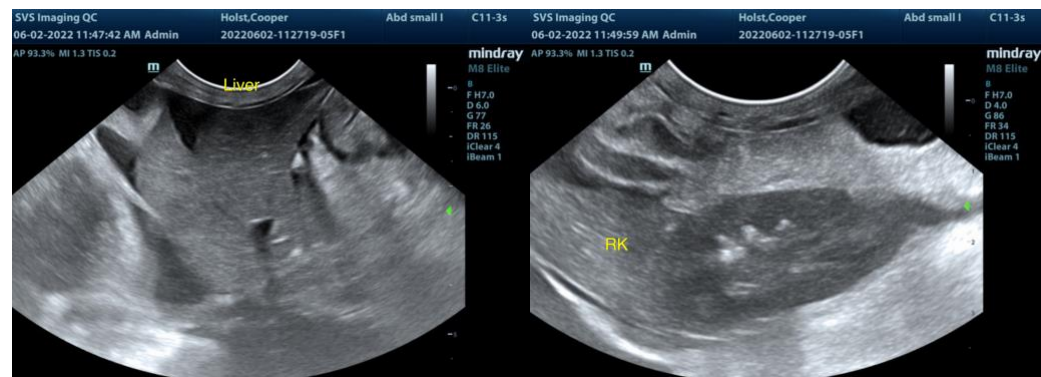


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Sarah Pender, CVT

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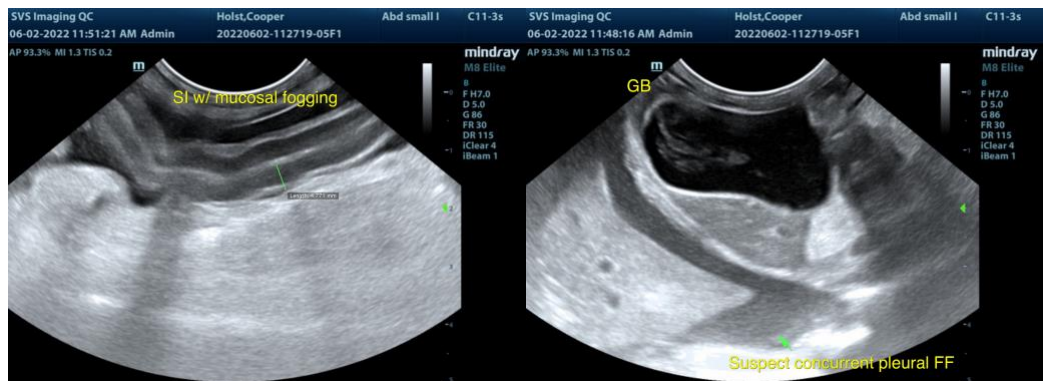
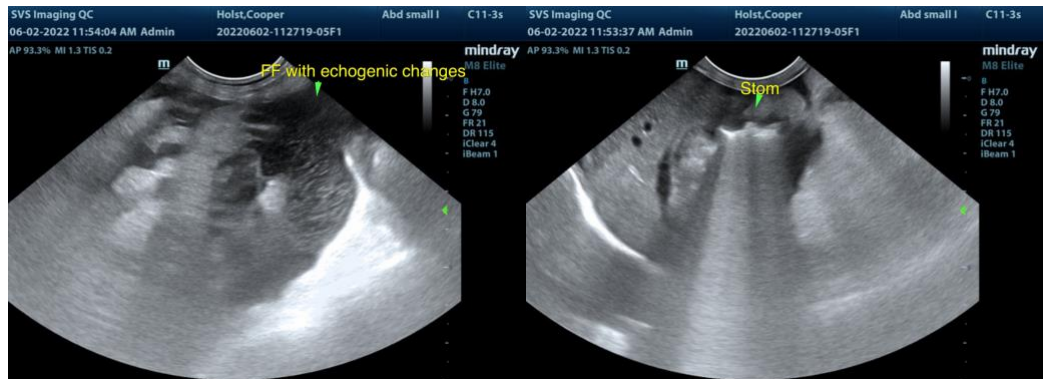
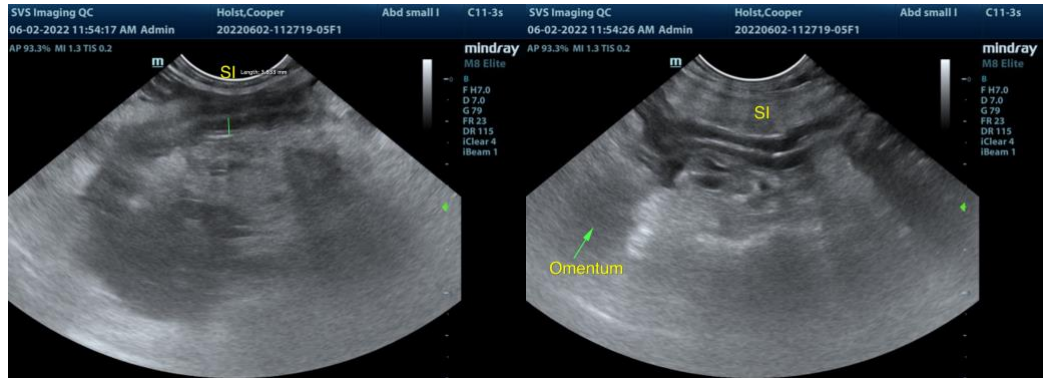
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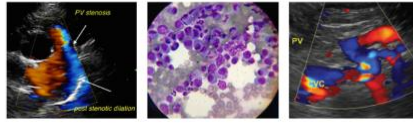
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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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.

**SPECIES**

Canine

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info@SonoPath.com

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