



**PATIENT PRESENTING CLINICAL SIGNS**

Hope Holubowski Diarrhea for 5 days, minimal improvement to medical management. Medication: metronidazole

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**SPECIES** *Urinary System*

Canine Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

**BREED**

Bichon Frise

**SEX**

Spayed Female

The right kidney is normal in size (3.9 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

**AGE**

2015

The left kidney is normal in size (3.61 cm), shape and echogenicity. It has smooth peripheral margination. There is a normal 1:3 cortex to medulla ratio with appropriate corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed.

*Adrenal Glands*

**WEIGHT**

14.4

The right adrenal gland is normal in size (0.83 cm at the cranial pole and 0.58 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.39 cm at the cranial pole and 0.43 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

*Spleen*

The spleen is subjectively normal in size with a normal smooth capsular contour. Parenchyma is appropriately finely textured and homogenous with normal echogenicity relative to surrounding tissue (hyperechoic to liver). No focal nodules or masses are observed. Splenic vasculature appears normal.

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

*Liver*

The liver is subjectively normal in size with normal smooth curvilinear peripheral contour. Parenchyma is appropriately hypoechoic to the spleen in echogenicity and appropriately mildly coarse and homogenous in echotexture. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

**HOSPITAL NAME**

Stanglein Vet Clinic

**REFERRING VET**

Dr. Rothrock

Gallbladder is moderately distended with anechoic bile as well as suspended and gravity dependent echogenic debris. The wall is smooth without visible thickening. There is no evidence of cystic or CBD dilation. There is no evidence of effusion or inflammation.

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*Gastrointestinal*

The stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) and layering. The lumen of the stomach is empty with no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.



**PATIENT** Hope Holubowski  
 Small intestine is diffusely mildly thick with a relatively thick mucosa compared to other layers. Normal wall layering is preserved; however, the mucosa is more echogenic than normal and contains hyperechoic striations perpendicular to the lumen. The lumen is empty with no evidence of obstruction or foreign material.

**SPECIES** Canine  
 The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

**Pancreas**

**BREED** Bichon Frise  
 Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.

**Free Abdomen**

**SEX** Spayed Female  
 There is no evidence of free peritoneal effusion noted in these images.  
 There is no apparent lymphadenopathy noted in these images.

**PRIMARY FINDINGS**

- AGE** 2015
- Lymphangiectasia – Small bowel findings are most consistent with lacteal dilation. These findings can be observed with protein-losing enteropathies caused by either primary lymphangiectasia or primary infiltrative inflammatory disease with secondary lymphangiectasia. Infiltrative neoplasia is possible but considered less likely. Histopathology is necessary to definitively determine underlying cause.
  - Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

**WEIGHT** 14.4

**INTERPRETED BY** **SECONDARY FINDINGS**

Beth Johnson, DVM  
 DACVIM

- Mild gallbladder debris - Cholecystic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecystic debris is not necessarily related to hepatobiliary disease. Echogenic bile is most commonly an incidental finding in dogs and should be interpreted in combination with clinical signs such as nausea, inappetence, cranial abdominal discomfort and/or laboratory changes such as increased ALP and/or increased Tbili.
- Urinary bladder debris

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 ARDMS/RVT

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**HOSPITAL NAME**

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If not recently evaluated, a general metabolic health screen is recommended in the form of a CBC/Chem panel, electrolytes, a urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

**REFERRING VET**

Dr. Rothrock

- A gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.
- A baseline cortisol is recommended. If baseline cortisol is less than 2, a full ACTH stimulation test is recommended to rule out hypoadrenocorticism.
- Ideally, biopsies of the GI tract are recommended to definitively diagnose and therefore manage the infiltrative bowel process.

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Hope Holubowski

**SPECIES**

Canine

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Bichon Frise

**SEX**

Spayed Female

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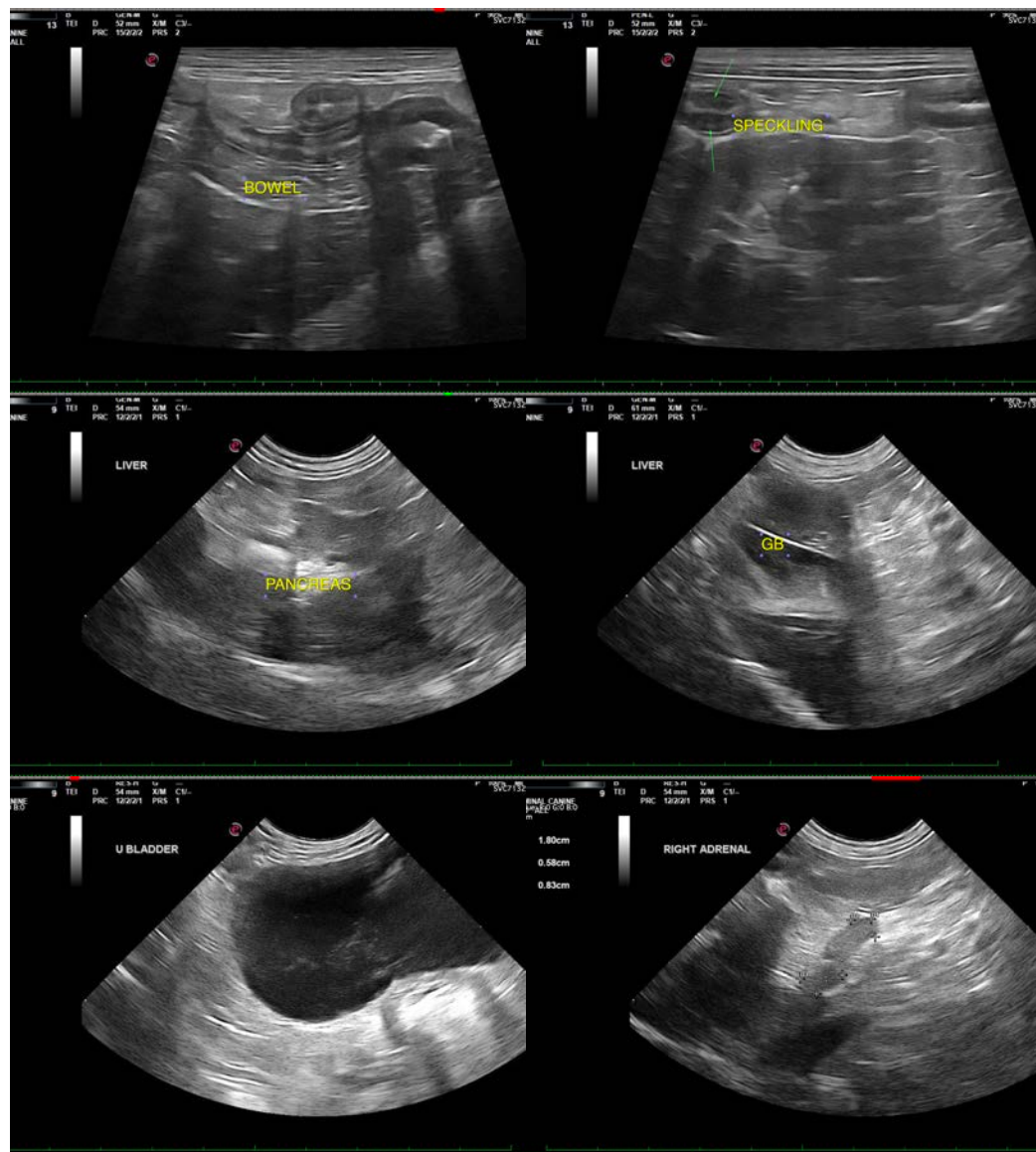
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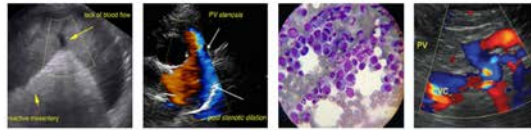
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- If biopsies cannot be obtained safely due to low albumin or patient stability, etc., empirical therapies could include diet change to an ultra-low-fat diet, empirical deworming with a 5-day course of Panacur, cobalamin supplementation (unless cobalamin level is evaluated and supplementation is not warranted) a probiotic and prednisolone (if not contraindicated based on patient contraindications, co-morbidities, etc.). Calcium monitoring, and supplementation, if necessary, is also recommended.
- Additionally, if patient's coagulation status is otherwise appropriate, anti-thrombotics such as clopidogrel or low dose aspirin may also be warranted.





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Hope Holubowski

**SPECIES**

Canine

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Bichon Frise

**SEX**

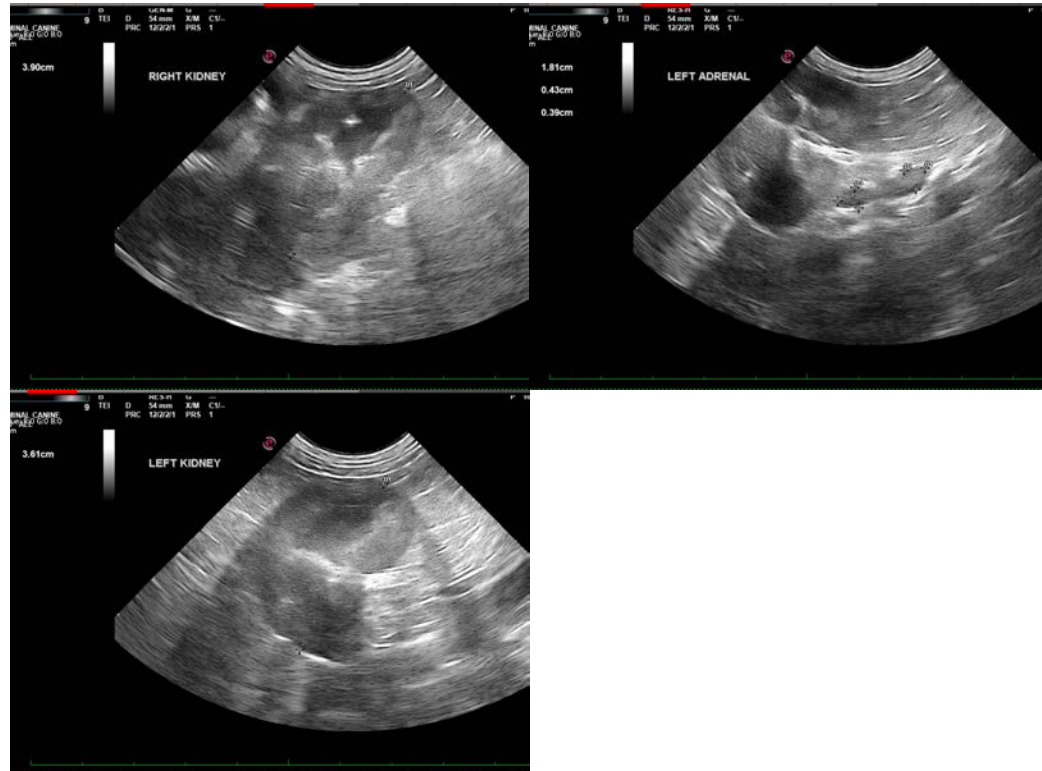
Spayed Female

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DACVIM

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.

**IMAGING PERFORMED BY**

Rebekah Jakum, CVT  
ARDMS/RVT

**Beth Johnson, DVM, DACVIM**  
info@sonopath.com

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