

<b>DATE</b>	<b>PRESENTING CLINICAL SIGNS</b>
8/24/22	Presenting O adopted P two weeks prior with a history of presumptive IBD (elevated anti-Porin IgA, Anti-Calprotectin IgA, and Anti Gliadin IgA), decreased cobalamin, mildly elevated TLI. Managed at rescue on Tylan, Fortiflora, and z/d diet. Post adoption, P has consistently had a decreased appetite, loose, mucousy stools with straining, and weight loss. Stopped Tylan and Began giving metronidazole 3 days prior to presentation. P also had 3 days history of frequent urination and urinary accidents in the house. BCS 4/9, with mild muscle wasting over hindlimbs bilaterally. Heart and lung auscultation WNL. Mucous membranes pink and moist. hypodonotia due to previous extractions.
<b>PATIENT</b>	
Count Chocula Gray	Current Medications: Transition from Fortiflora to Provable 8/17 Transition from z/d to HA 8/17. Metronidazole (62.5 mg): 1 PO BID begin 8/8, Tylan (325 mg) BID restart 8/18, Cerenia (24 mg): 1/2 PO SID begin 8/17, Vit B12 injection (1000 mcg/ml): 0.5 mL SQ Q 1 week for 6 weeks, then once monthly begin 8.17 Entyce PRN, Gabapentin (50 mg): 1 PO BID Begin 8/17, Cefpodoxime (100 mg): 1/2 PO SID for UTI begin 8/18, Apoquel (5.4 mg): 1/2 PO SID (start date unknown), Heartgard Pet Armor.
<b>SPECIES</b>	
Canine	Lab Results: CBC/Chem (8/17/22): Albumin 2.3 (rr 2.7), Creat 0.4 (rr 0.5) BUN 4 (rr 9). Urinalysis (8/17/22): USG 1.018, >50 WBC/hpf, >50 RBC/hpf, rods present, spermatozoon present (recently neutered). Previous bloodwork (3/31/22): Cobalamin 233 (rr 251), TLI 35.2 (rr 35) Anti-Porin IgA 48.4 (rr <15), Anti-Calprotectin IgA 25.2 (rr <6) Anti-Gliadin IgA 247.5 (rr <50). CBC/Chem (2/24/22): Globulin 3.9 (rr 3.6), Albumin 3.0, Creatinine 0.4 (rr 0.5), Calcium 8.7 (rr 8.9), Cholesterol 75 (rr 92). Date of Previous IntraPet Ultrasound: No previous. Sedation: Not required to complete full diagnostic ultrasound. Stat Report: Not requested.
<b>BREED</b>	
Dachshund	ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN
<b>SEX</b>	
Neutered Male	<b>Urinary System</b>
<b>AGE</b>	The urinary bladder is moderately distended with anechoic contents. No masses, inflammatory changes, echogenic sediment or cystoliths are observed. The urinary bladder, trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.
7/31/12	Prostate is symmetrically enlarged (3.3 cm wide) with smooth margins that are well differentiated from surrounding tissue. Normal bilobed shape is maintained. Parenchyma is heterogenous with scattered hyperechoic foci present. A large, anechoic, slightly irregular, partially septated cyst is noted measuring 3.6 cm x 2.3 cm.
<b>WEIGHT</b>	
11 Pounds	The right kidney is normal in size (4.91 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.
<b>INTERPRETED BY</b>	The left kidney is normal in size (4.89 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.
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<b>IMAGING PERFORMED BY</b>	<b>Adrenal Glands</b>
Rachel Brillhart RDMS	Adrenal glands are plump/swollen in size. Normal shape and contour are maintained without evidence of capsular invasion. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal. The left adrenal gland measures 1.9 cm long x 0.67 cm at the cranial pole and 0.68 cm at the caudal
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pole. The right adrenal gland measures 1.77 cm long x 0.72 cm at the cranial pole and 0.60 cm at the caudal pole.

The left adrenal gland is normal in size (measurement), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

### ***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.

### ***Liver***

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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.

### ***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.

The visible small intestines are normal in wall thickness and layering. Hyperechoic mucosal fogging or speckling is noted. Small intestinal motility appears adequate (1-3 contractions per min).

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

### ***Pancreas***

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### ***Free Abdomen***

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

## **ULTRASONOGRAPHIC FINDINGS**

- **Mucosal speckling** – Mucosal speckling is often present with inflammatory bowel disease (IBD). It is not specific for type or severity of disease. Mild speckling change can occur as a normal patient variant in the post-prandial state.
- **Bilateral adrenomegaly** – consistent with adrenal hyperplasia secondary to pituitary dependent hyperadrenocorticism vs stress or normal variant. Interpret in combination with clinical signs of hyperadrenocorticism.

- **Hyperechoic hepatomegaly** - This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible, but considered less likely.
- **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.
- Large, partially septated, possibly complicated prostatic cyst

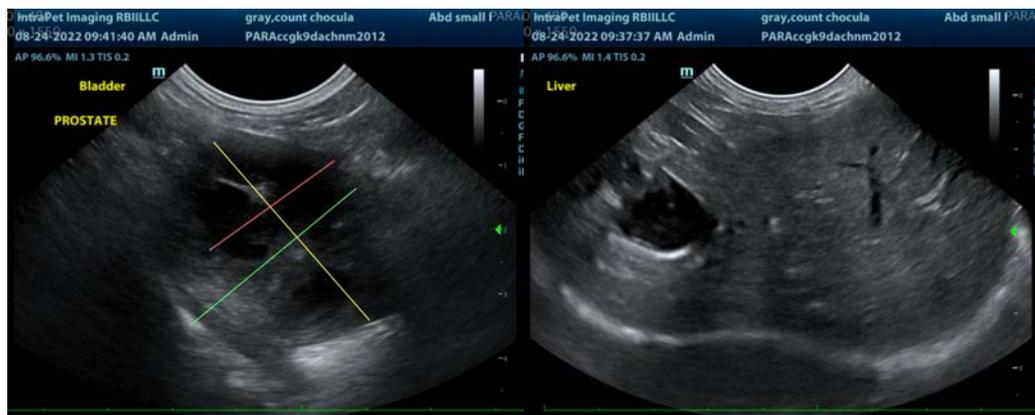
### INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

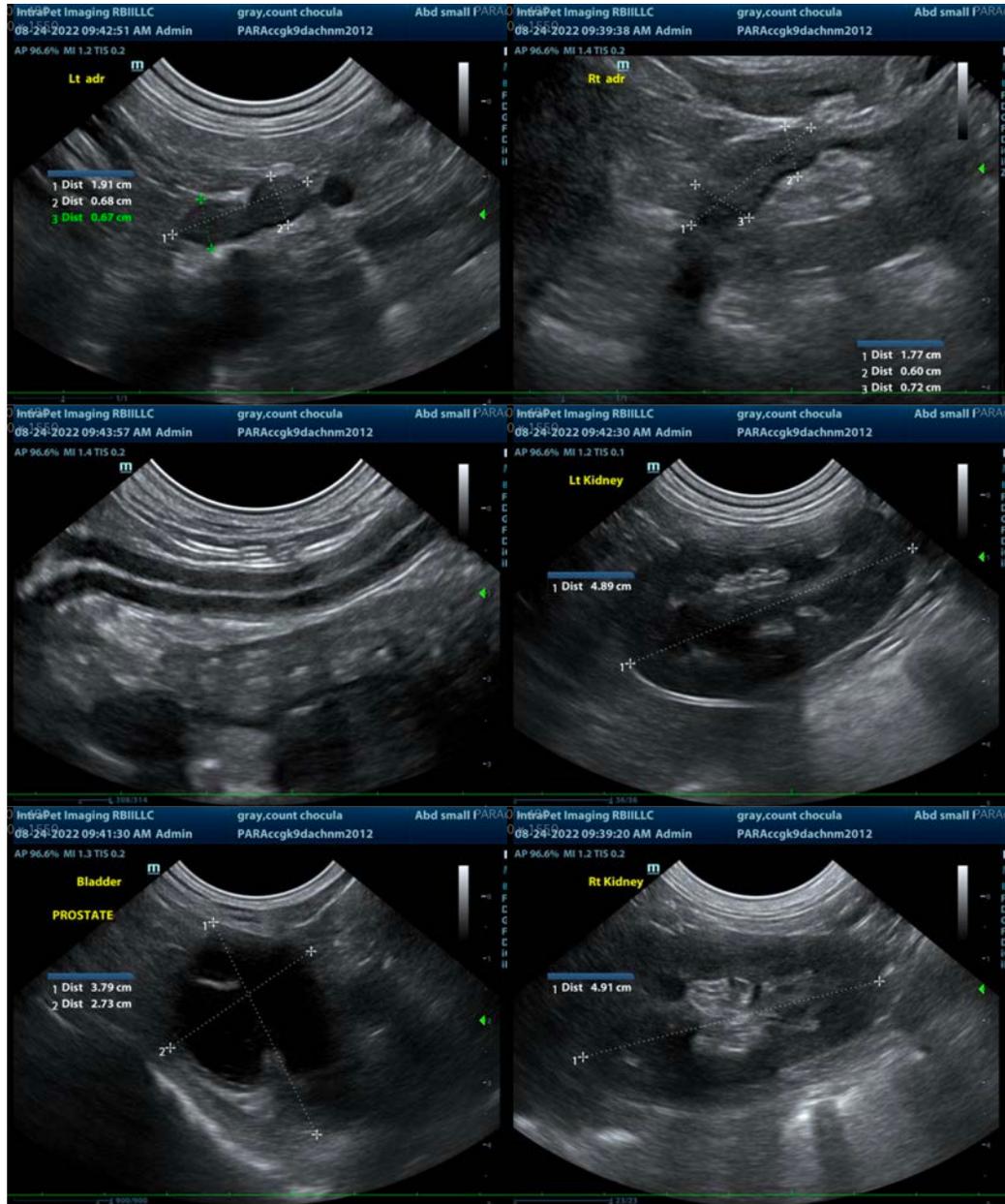
Given this patient's history of inflammatory bowel disease, the changes in the bowel in these images appear consistent. Recommendations include the reportedly already in place transition from one novel or hydrolyzed protein diet to another on a trial and error basis, monitoring for improvement, as well as transition to a Provable probiotic as well as the initiation of cobalamin supplementation.

Given this patient's reportedly low albumin and mucosal speckling, if improvement is not noted with this protocol, a low-fat diet could also be tried. In the meantime, a fecal enteropathogen PCR panel to Texas A&M GI Laboratory could be considered for further evaluation of possible infectious disease, as well as empirical deworming with a 5-day course of Panacur.

The described adrenal gland, liver and gallbladder changes are all suggestive of hyperadrenocorticism. After the inflammatory bowel disease is stabilized, if clinical signs of hyperadrenocorticism such as polyuria, polydipsia, polyphagia, etc. are present, testing in the form of a low-dose Dexamethasone suppression test is warranted. If clinical signs are not present, monitoring is recommended with testing only pursued when and if clinical signs develop.

Given this patient's recent neuter, the presence of a prostatic cyst, and the presence of a urinary tract infection, recommendations include treating the urinary tract infection based on culture and sensitivity results (ideally with an antibiotic that has good prostatic penetration such as Enrofloxacin). The cyst may regress with neutering and treatment of the urinary tract infection/suspect prostatitis. However, if it doesn't, draining or even surgical omentalization may be necessary in the future.





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.

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