

**DATE PRESENTING CLINICAL SIGNS**

5/19/22 Decreased appetite, leaking urine, increased water consumption. Diarrhea for a day. Hx of UTI in Feb 2022-Ecoli. PU/PD, incontinence, low Alb 2.8.

PATIENT

Roxie Quillen

Current Medications: Fortiflora, Hill's I/D.

Lab Results: 4/19/22 CBC normal. Chem: AST 91, Alb 2.8, Creat 1.3. UA- USG 1.017, protein neg, glu/ketone/bile/blood neg, WBC/RBC 0-1/hpf, no bacteria seen.

Radiographs: NSF 4/19/22.

SPECIES

Canine

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: Not requested.

BREED

Maltese X

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**SEX**

Spayed Female

Urinary System

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.

AGE

3/23/09

The right kidney is at the lower end of normal limits in size and normal in shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted, primarily in the diverticular of the kidney.

WEIGHT

7 Pounds

The left kidney is at the lower end of normal limits in size and normal in shape with smooth peripheral margination. A normal 1:3 cortex to medulla ratio is maintained. The medulla and cortices are uniform in texture with some mild increased echogenicity and mild loss of corticomedullary distinction. There is no evidence of pyelectasia, mineral or infarcts observed. Non-obstructive areas of mineralization/nephroliths are noted, primarily in the diverticular of the kidney. The left kidney measures 3.0 cm. The right kidney measured 2.83 cm.

INTERPRETED BYBeth Johnson, DVM
DACVIM**IMAGING PERFORMED BY**

Rachel Brillhart RDMS

Adrenal Glands

The right adrenal gland is "plump" (1.44 cm long x 0.60 cm at the cranial pole and 0.50 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

HOSPITAL NAME

Jacksonville VH

The left adrenal gland is "plump" (1.45 cm long x 0.54 cm at the cranial pole and 0.47 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

REFERRING VET

Dr. Burk

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.

INVOICE

37780

Liver

Liver is subjectively enlarged with rounded margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature appears normal.

GB is moderately distended with anechoic bile and gravity dependent echogenic sediment. 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 mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. Pyloric outflow tract appears patent.

The visible small intestines are normal in wall thickness and layering (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). Small intestinal motility appears adequate (1-3 contractions per min). The lumen of the small intestine is empty with no evidence of obstruction, foreign material or infiltrative disease. Hyperechoic speckles and striations are noted throughout the mucosal layer.

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 peritoneal effusion. There is no apparent lymphadenopathy.

PRIMARY FINDINGS

- Hyperechoic mucosal speckling of the small bowel – This is a finding that can be seen with inflammatory bowel disease and more specifically lymphangiectasia. Normal post-prandial variant is also possible, but considered less likely, given the concurrent hypoalbuminemia.
- Heterogenous liver – Differentials for hepatic changes include both benign steroid (vacuolar) hepatopathy or extramedullary hematopoiesis as well as infiltrative round cell or metastatic neoplasia.
- Bilateral adrenomegaly – consistent with adrenal hyperplasia secondary to pituitary depending hyperadrenocorticism vs normal variant.

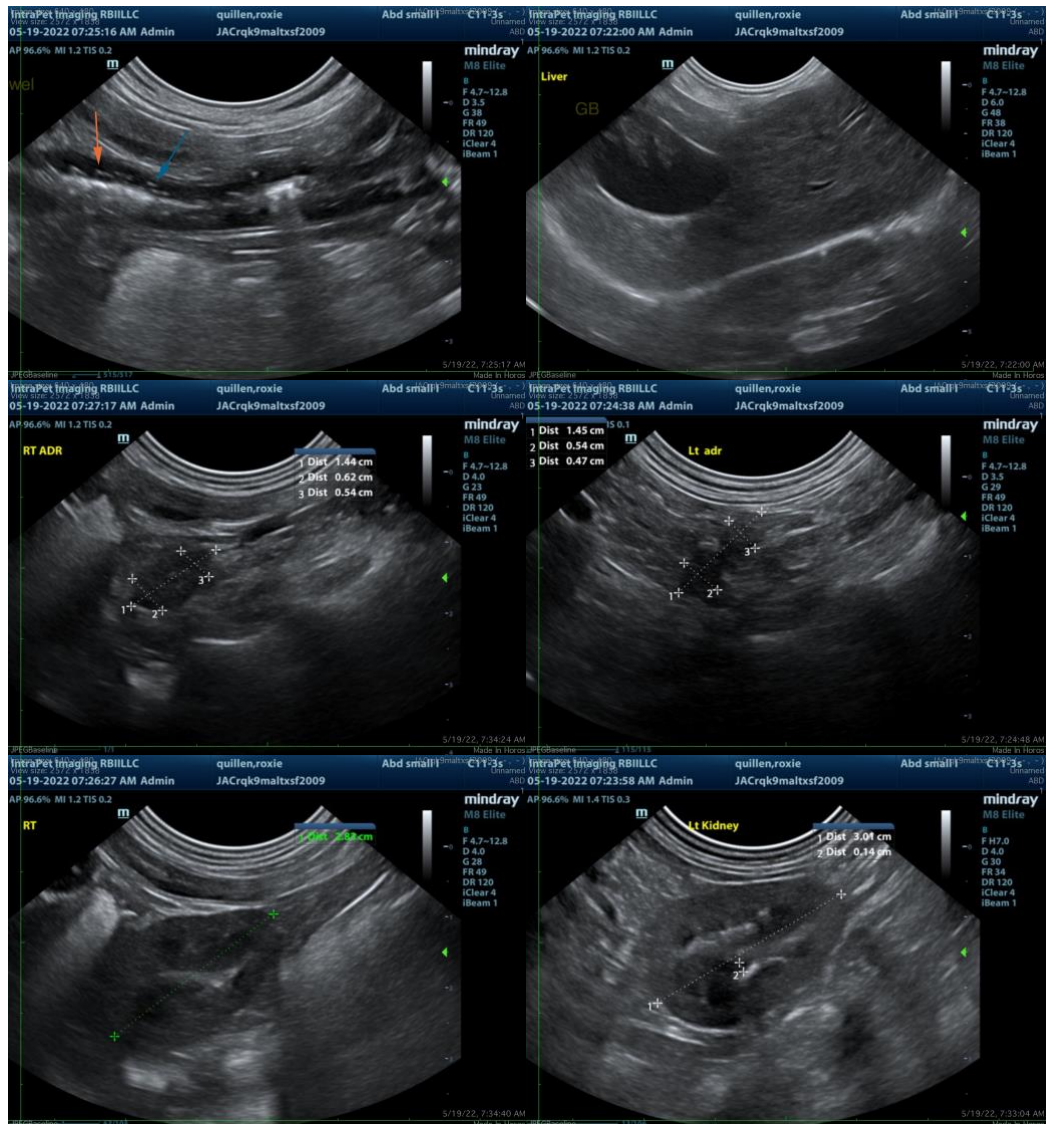
SECONDARY FINDINGS

- 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.
- Age related kidney change – This finding is expected/consistent with age-related mild degenerative disease and should be interpreted clinically in combination with laboratory changes.
- Non-obstructive nephrolithiasis

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given this patient's hypoalbuminemia and diarrhea, the small bowel changes are concerning for lymphangiectasia/protein losing enteropathy. Recommendations include a gastrointestinal malabsorption panel including TLI, PLI, folate and cobalamin to Texas A&M GI laboratory followed ultimately by biopsies of the small bowel. An empirical low-fat diet is recommended in the meantime. Given this patient's PU/PD, history of urinary tract infections, heterogeneous liver, and plump adrenal glands, hyperadrenocorticism is considered a concurrent likely diagnosis, and recommendations include a low-dose Dexamethasone suppression test to rule in/out hyperadrenocorticism.

To avoid false positive results, it's recommended to address illness (GI disease) first and further evaluate possible HAC, only when other disease has been managed.



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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