

**DATE PRESENTING CLINICAL SIGNS**

7/10/23

History: S P was presented to rDVM for a decreased appetite. Bloodwork was performed and revealed elevated liver values. Patient was placed on a prescription liver diet and denamarin. Appetite has improved this week.

**PATIENT**

Cutty Brietmeyer

Current Medications: Denamarin advanced large dog, 1 tab PO 24h

Lab Results: ALP 1595, ALT 445, GGT 20, tbil 1.3.

**SPECIES**

Date of Previous IntraPet Ultrasound: No previous.

Canine

Sedation: Not required to complete full diagnostic ultrasound.

**BREED**

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

Mixed Breed

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX****Urinary System**

Neutered Male

Urinary bladder is adequately distended with primarily anechoic contents and occasional echogenic non-shadowing debris. Apical urinary bladder wall is diffusely thick (X cm). Mucosa is hyperechoic and irregular. No masses are observed. Several cystoliths are noted along the dependent wall, the largest of which measures approximately 0.86 cm in diameter. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface.

**AGE**

1/5/09

The area of the prostate is examined without evident prostatic pathology.

**WEIGHT**

63.1 Pounds

Left kidney is normal in size (7.11 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.

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM

Right kidney is normal in size (6.9 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.

**HOSPITAL NAME**

Eastern AH

**Adrenal Glands**

Left adrenal gland is normal in size ( 0.93 cm at cranial pole and 0.98 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**REFERRING VET**

Dr. Wu

Right adrenal gland is normal in size (0.99 cm at cranial pole and 0.84 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**INVOICE**

23305

**Spleen**

Spleen is subjectively large in size with normal smooth margins. Parenchyma is normal in echogenicity with a coarse/heterogenous echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is mottled by multifocal discrete hypoechoic nodules of varying sizes "moth-eaten". 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 visible stomach wall is normal in thickness 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. 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.

The visible colon is normal in wall thickness and layering. Contents are consistent with normal formed feces and gas.

### ***Pancreas***

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

### ***Free Abdomen***

A trace amount of anechoic free fluid, as well as cranial abdominal/portal lymph nodes are enlarged with swollen irregular capsular contour and loss of normal length to width ratio (rounded in shape). Nodes are hypoechoic with loss of normal parenchymal detail.

## **ULTRASONOGRAPHIC FINDINGS**

- Nodular Liver with aggressive portal lymphadenopathy- This finding is concerning for infiltrative disease such as round cell neoplasia or metastatic neoplasia. Benign disease (nodular hyperplasia) cannot be ruled out but is considered less likely. The aggressive portal lymph nodes are most consistent with infiltrative round cell or metastatic neoplasia. A benign aggressive inflammatory response cannot be ruled out without tissue sampling +/- culture.
- Coarse splenomegaly – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.
- 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.
- A trace amount of anechoic free fluid is noted in these images.
- Urinary bladder cystoliths are noted, the largest of which measures approximately 0.8 cm in diameter.

## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

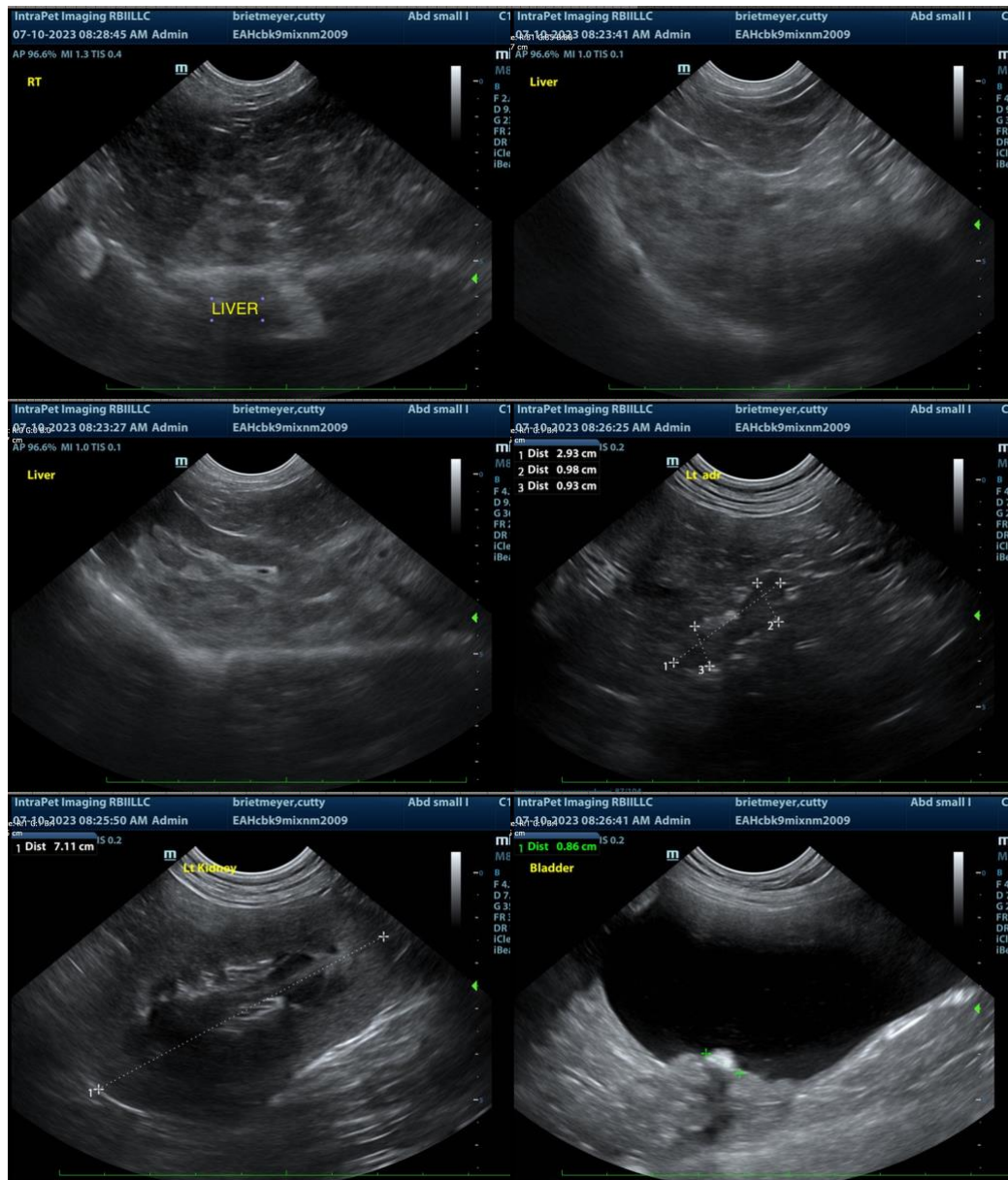
Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as

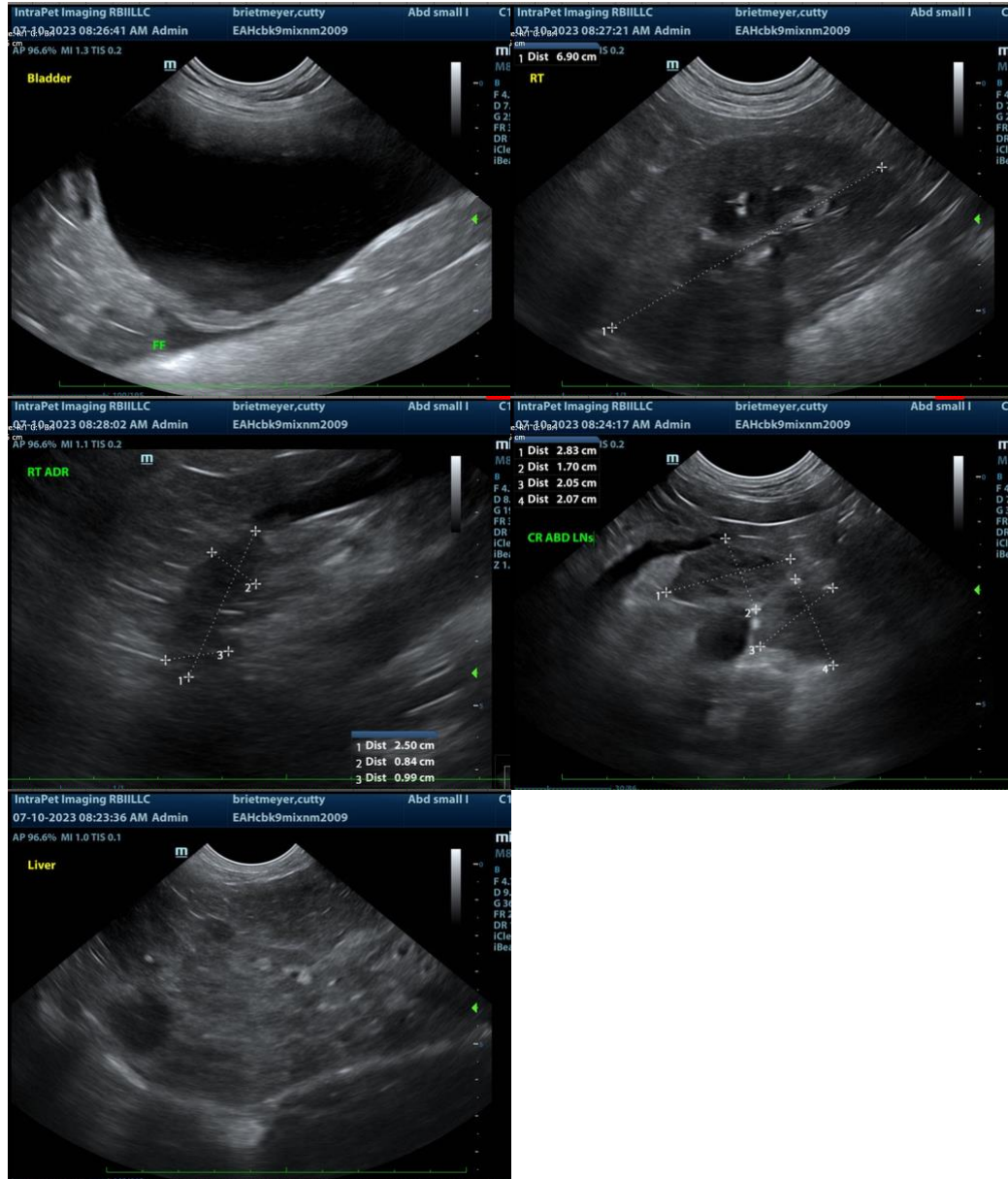
well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

Fine needle aspirates of both the liver, as well as the enlarged cranial abdominal/portal lymph nodes is recommended if patients coagulation status is appropriate.

Further treatment recommendations are dependent on fine needle aspirate results. Having said that, as long as liver function is normal, a liver diet may not necessarily be necessary and in a patient with a decreased appetite, a more palatable option may help.

Liver function can be further investigated via bile acids if total bilirubin is normal or potentially an ammonia level to help direct diet choice.





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.

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.

**Beth Johnson, DVM DACVIM**  
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