

**DATE PRESENTING CLINICAL SIGNS**

2/14/23

**PATIENT**

Angel Weber

**SPECIES**

Canine

**BREED**

Beagle Mix

**SEX**

Spayed Female

**AGE**

3/9/11

**WEIGHT**

34.6 Pounds

**INTERPRETED BY**Beth Johnson, DVM  
DACVIM**HOSPITAL NAME**Animal Emergency  
Hospital**REFERRING VET**

Dr. Kalwa

**INVOICE**

21109

History: vomiting- no blood, food chunky diarrhea yellowish eyes (the last couple of days) not eating nose is crusty a little bit angry this morning (out of character) incontinence nose crusty Diet: Dr. Grays Best Breed Holistic Dog Nutrition Medication: Novox Chewable S 25Mg Twice A Day lost weight Hx: liver mass 1 year ago- jaundice- no FNA ATO in room: (2 sisters in room) - O is sisters and dad - Presented for not eating, vomiting and diarrhea for few days - Today dribbled urine in house - Jaundice- first noticed a few days ago- 1 yr ago had AUS- found small liver mass, unsure cause- unsure if cancer- P got better and jaundice resolved - Nose crusty, left ear infection, bumps on skin - Had surgery on left hindlimb torn ACL in 2017, lump removed - Muscle wasting for few months on head- Os thought just getting old

Current Medications: None given yet- plan for buprenorphine injection

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

Stat Report: STAT requested.

Imaging Performed By: Rachel Brillhart, RDMS.

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

Urinary bladder is adequately 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.

Kidneys are overall normal in size and 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 cortical echogenicity and mild loss of corticomedullary distinction, expected in this age patient. There is no evidence of pyelectasia, mineral or infarcts observed. The right kidney measures 6.31 cm. The left kidney measures 6.42 cm.

**Adrenal Glands**

Left adrenal gland is normal in size (2.2 cm long x 0.56 cm at cranial pole and 0.63 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (2.08 cm long x 0.82 cm at cranial pole and 0.67 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**Spleen**

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 in size with swollen irregular rounded margins. Parenchyma is diffusely heterogenous, characterized by multiple poorly defined hypoechoic nodules within an otherwise hyperechoic liver parenchyma, however, there are several more discrete mass-like areas of even more marked heterogeneity. One mass-like area in the mid caudal liver measured 3.0 cm x 5.0 cm. Another mass-like area in the caudal liver measured approximately 8.0 cm x 10.0 cm.

Gallbladder is moderately distended with anechoic bile as well as moderate 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 stomach is moderately distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. However, given the reported history of fasting, delayed gastric emptying could be considered. Soft (cloth) fluid absorbing foreign material is considered less likely but cannot be definitively ruled out. If clinical signs are consistent (vomiting, etc.), recommendations include supportive medical care, 24 hours fasting and re-image.

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. The capsule is mildly irregular in shape. Parenchyma is mildly heterogenous and coarse. 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.

## **ULTRASONOGRAPHIC FINDINGS**

### **Primary Findings**

- The markedly heterogenous liver with several mass-like lesions is concerning for infiltrative neoplasia, such as round cell neoplasia. However, this change can also occur with benign processes, such as nodular hyperplasia, steroid or vacuolar hepatopathy, extramedullary hematopoiesis, or even chronic inflammatory disease. Given this patient's presence of liver masses more than a year ago, a benign condition may be favored over a malignancy, although the masses have progressed/grown in size, so a slow growing malignancy should be ruled out.
- Moderate 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.

### **Secondary Findings**

- Age-related kidney changes

- Pancreatic age-related remodeling – Mild irregularities are consistent with benign age-related change. Low-grade smoldering chronic pancreatitis cannot be ruled out and should be suspected in the face of appropriate clinical signs.

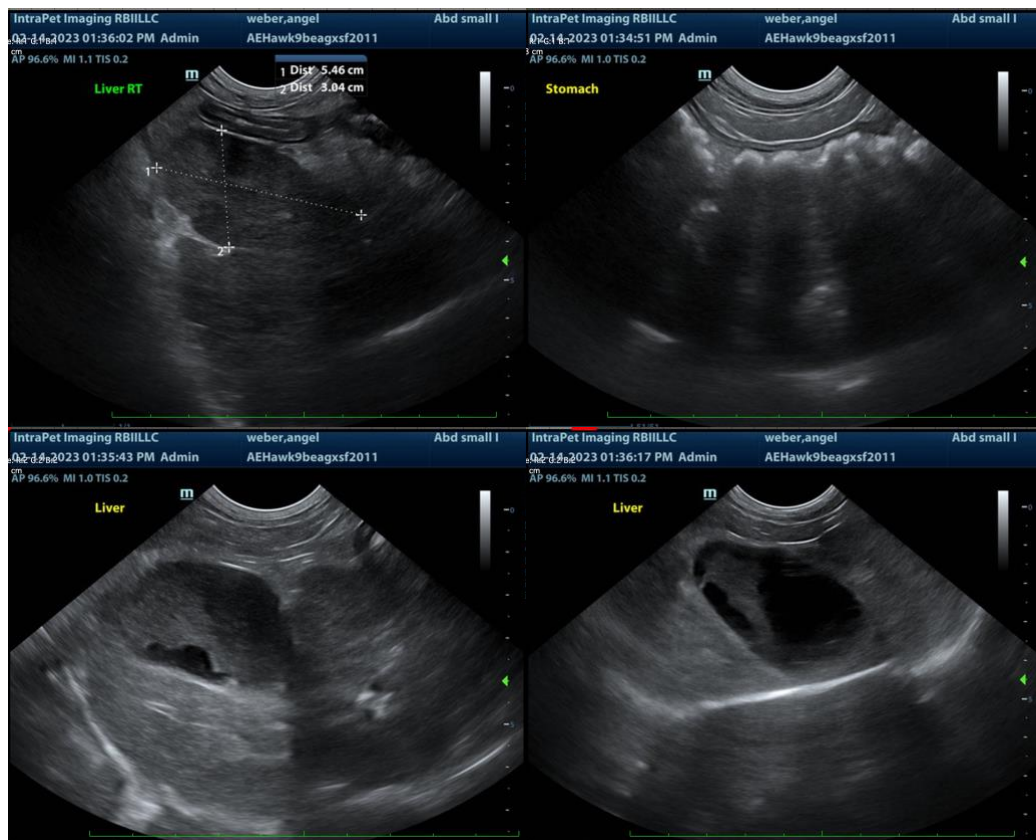
### **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

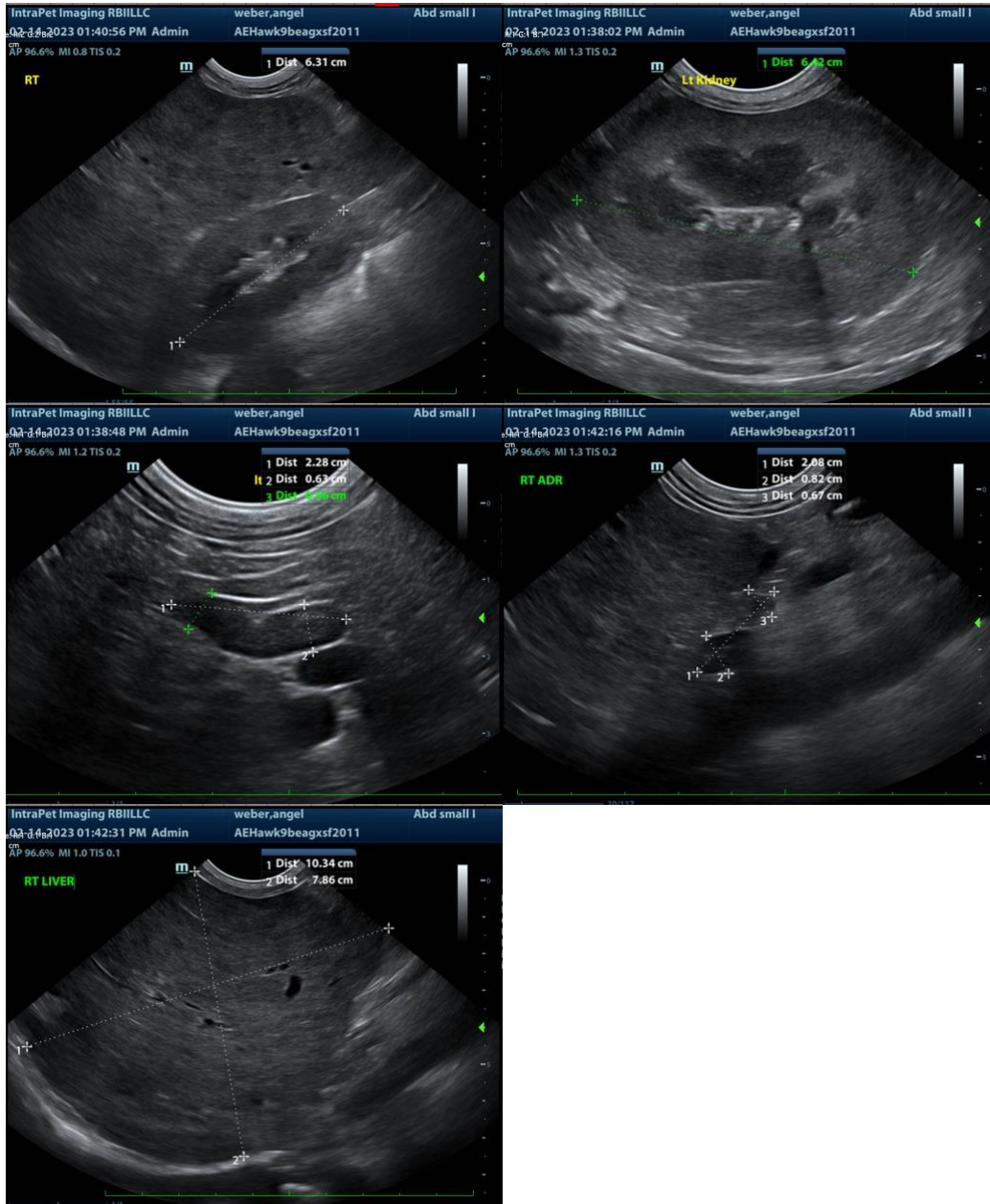
Three view thoracic radiographs are recommended for further assessment of cardio-pulmonary status as well as to further evaluate for any evidence of metastatic disease, if not recently evaluated.

A fine needle aspirate of the liver, to assess inflammatory cell type and rule in/out neoplasia, etc., is recommended if patients coagulation status is appropriate.

In the meantime, treatment recommendations given the reported clinical signs and icterus, include fluid therapy, antiemetics, gastroprotectants, hepatic nutraceuticals, such as Ursodiol and/or Denamarin, and broad-spectrum antibiotics. Nutritional support is also important, so appetite stimulants, if necessary, are recommended.

Additionally, given the concurrent diarrhea, 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.





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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