

**DATE PRESENTING CLINICAL SIGNS**

8/14/23

History: Pet presented for lethargy and vomiting on 8/9. Labs showed New elevation in Liver values. Weight loss -originally owner was trying to get to loose weight but weight has not stabilized.

**PATIENT**

Lily Heisey

Current Medications: Provable, gut guard. Had cerenia 80mg x 4 days - 8/9-8/12

Lab Results: AST 491, ALT 702, T bili- 0.5

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Torb 1ml, Dexdomitor0.3mls IV.

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

**SPECIES**

Canine

**BREED**

Mastiff Mix

**SEX**

Spayed Female

**AGE**

2/11/16

**WEIGHT**

94.3 Pounds

**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.

Left kidney is normal is size (6.55 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. A subtle hyperechoic band parallel to the corticomedullary border is present.

Right kidney is normal is size (7.2 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. A subtle hyperechoic band parallel to the corticomedullary border is present.

**INTERPRETED BY**

Beth Johnson, DVM  
DACVIM

**Adrenal Glands**

Left adrenal gland is normal in size (0.7 cm at cranial pole and 0.62 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

Healing Paws VWC

Right adrenal gland is normal in size (0.69 cm at cranial pole and 0.72 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.

**REFERRING VET**

Dr. Key

**Liver**

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.

**INVOICE**

23945

Gallbladder is non-distended in size. The wall is smooth without visible thickening. Luminal contents are primarily anechoic. There is no evidence of cystic or common bile duct dilation.

**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. 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**

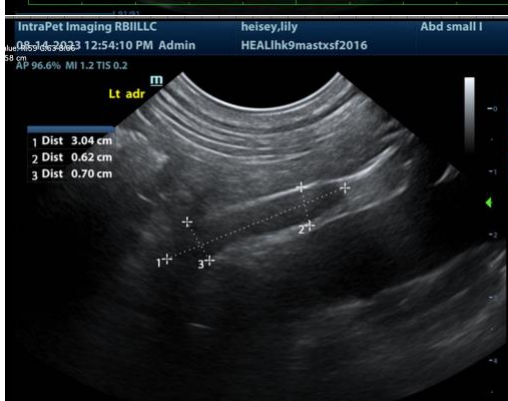
- Subtle bilateral medullary rim sign - This finding is of unknown clinical significance and can be a normal variant, often idiopathic. Medullary rim sign can be present with renal disease including FIP, lymphoma, hypercalcemic nephropathy, Leptospirosis, tubular disease, other and should be interpreted in combination with other more specific indications of kidney disease such as isosthenuria, proteinuria, azotemia, etc. This is a common incidental finding in patients with diabetes mellitus.
- 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.
- An obvious cause for the reported increased liver enzymes is not identified in these images. Microscopic disease such as Leptospirosis, bacterial cholangiohepatitis, chronic active hepatitis, copper-associated hepatotoxicity, other hepatotoxicity, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out.

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

Testing for Leptospirosis is recommended. Bile acids are recommended, if tbili is not increased.

An empirical course of antibiotics and hepatic nutraceuticals may be tried empirically, with monitoring of ALT for improvement. If improvement is noted, antibiotics should be continued until liver enzymes either normalize or plateau (recheck every 2-3 weeks); however, if improvement is not noted and/or enzyme increase progresses, antibiotics should not be continued long term and liver tissue sampling is recommended.

FNA of the liver can be performed to assess inflammatory cell type, rule in/out round cell neoplasia, etc. (if patient's coagulation status is appropriate). If round cell neoplasia is not diagnosed, a liver biopsy (including copper level assessment) may be required to definitively diagnose the underlying hepatopathy.



**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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