

**DATE**

1/9/23

**PRESENTING CLINICAL SIGNS**

History: Patient had lab work done during physical exam 11-9-22 GGT is elevated at 55 (0-13) ALP is elevated at 371 (5-160) Patient is stable and not showing any symptoms, but owner would like to work up further with ultrasound of Abdomen to make sure nothing is being missed. Patient is on Same- LQ 425 mg SID

**PATIENT**

Katie Kemble

Current Medications: Same LQ- 425mg SID in am on empty stomach ( 6 months), Soloxine 0.2 mg 1 tab by mouth twice daily ( 6 months). Patient receives monthly Adequan injections 100mg/mL 1.5cc IM (2 years) and Cytopoint 30mg and 40mg SQ (2 years).

**SPECIES**

Canine

Lab Results: GGT: 55 ( 0-13), ALP: 371 ( 5-160), Lipase: 290 (0-250), Spec CPL 234 (0-200)

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

**BREED**

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

Golden Retriever

**SEX**

Spayed Female

**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.

**AGE**

7/30/13

Left kidney is normal is size (7.04 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.

**WEIGHT**

63 Pounds

Right kidney is normal is size (6.80 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

**Adrenal Glands**

Left adrenal gland is normal in size (2.5 cm long x 0.58 cm at cranial pole and 0.59 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

Celebrie VH

Right adrenal gland is normal in size (3.16 cm long x 0.73 cm at cranial pole and 0.72 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**REFERRING VET**

Dr. Garrett

**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.

**INVOICE**

20510

**Liver**

Liver is subjectively enlarged with mildly irregular margins. Parenchyma is heterogenous characterized by multiple poorly defined hypoechoic nodules within otherwise hyperechoic liver parenchyma. Visible vasculature and biliary tree appear normal without distension or congestion.

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 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. 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***

There is no evidence of peritoneal effusion. There is no apparent lymphadenopathy.

## **ULTRASONOGRAPHIC FINDINGS**

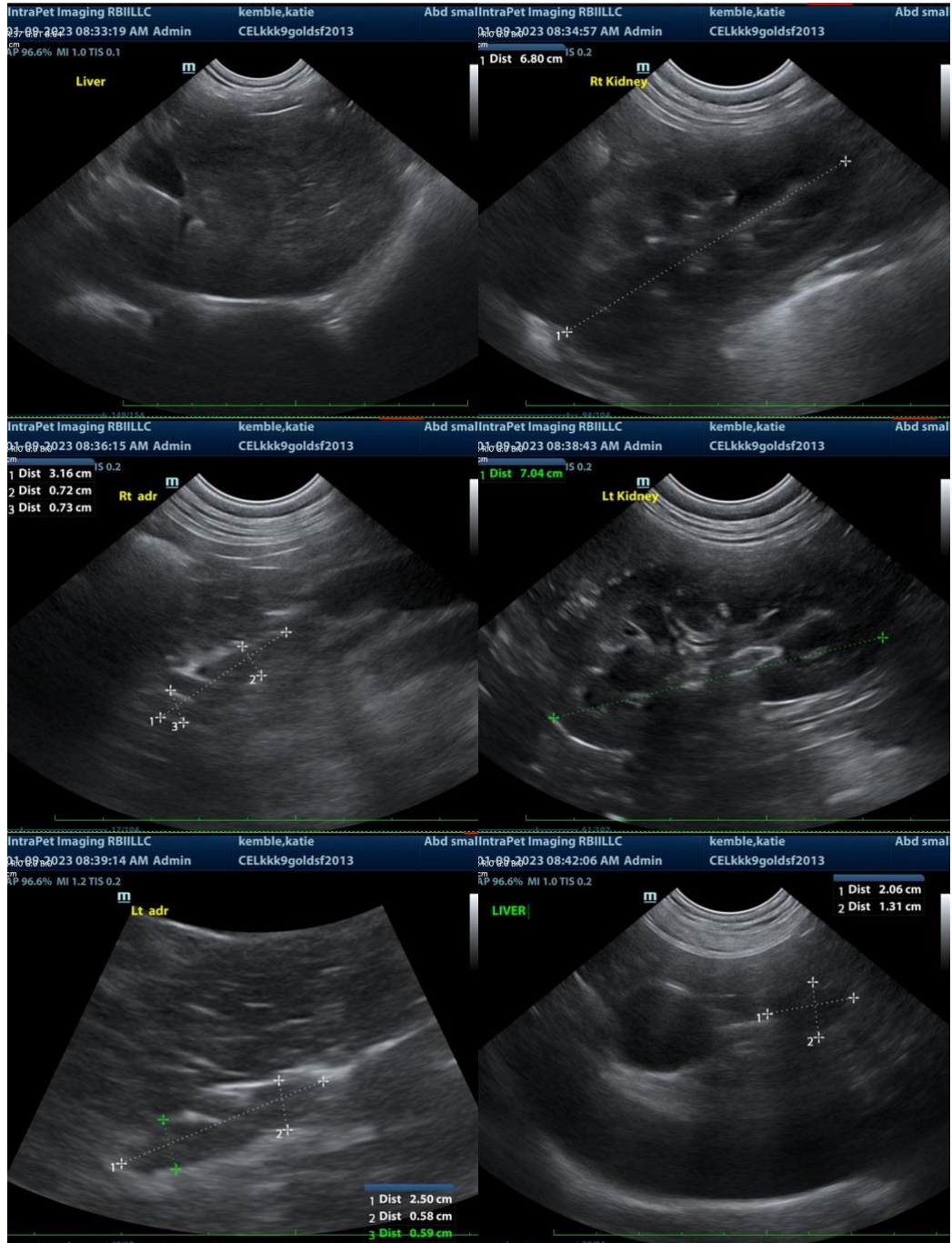
- Heterogenous Liver – These changes are most consistent with benign processes such as nodular hyperplasia, steroid (vacuolar) hepatopathy, extramedullary hematopoiesis or possibly chronic inflammatory disease and less commonly infiltrative round cell or metastatic neoplasia.

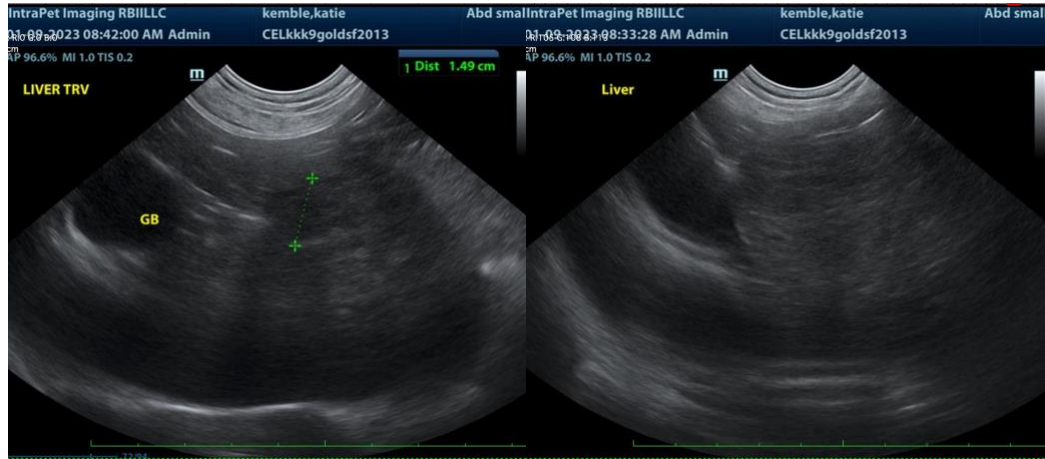
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Differentials for increased ALP are vast and non-specific. Differentials include, but are not limited to, benign nodular hyperplasia which occurs in 70% of older dogs and often does not result in an abnormal ultrasound, reactive or idiopathic/vacuolar hepatopathy, cholestasis and/or hyperadrenocorticism as well as many chronic non-hepatobiliary diseases such as chronic infections/inflammation from dental disease, IBD, neoplasia, hyperlipidemia, hypothyroidism, chronic pancreatitis, chronic stress, etc.

There is no ultrasonographic evidence of cholestasis. Adrenocortical testing such as a low dose dexamethasone suppression test could be considered if clinical signs of hyperadrenocorticism are present. Ursodiol could be considered if gallbladder sludge is noted. A fine needle aspirate of the liver could be considered if patient's coagulation status is appropriate. Otherwise, recommendations include addressing any other concurrent disease and monitoring. If values are progressive, recheck imaging is recommended.

In this patient specifically, next recommended steps would include either routine monitoring with no further intervention, unless progression occurs vs potentially a fine needle aspirate of the liver if patient's coagulation status is appropriate.





**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**  
Beth.Johnson@SonoPath.com