

**DATE**

12/5/22

**PRESENTING CLINICAL SIGNS**

History: P presented for annual exam and ALP elevation (~800, previously ~200 on annual bloodwork), hypercholesterolemia and hypertriglyceridemia noted on routine bloodwork. Unremarkable PE other than very mild dental disease.

**PATIENT**

Louie Long

Current Medications: None.

Lab Results: Marked ALP elevation (849 IU/L), Hypercholesterolemia (376 mg/dL), Hypertriglyceridemia (798 mg/dL), All else WNL

**SPECIES**

Canine

Date of Previous IntraPet Ultrasound: No previous.

Sedation: Not required to complete full diagnostic ultrasound.

**BREED**

Poodle Mix

Stat Report: Not requested.

Imaging Performed By: Rachel Brillhart, RDMS.

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN****SEX**

Neutered Male

**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**

7/10/11

Prostate is normal in size, echotexture and echogenicity for a neutered male.

**WEIGHT**

14.3 Pounds

Left kidney is normal is size (4.85 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 is size (4.41 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.

**Adrenal Glands**

Left adrenal gland is normal in size (2.02 cm long x 0.61 cm at cranial pole and 0.61 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**HOSPITAL NAME**

Eastern AH

Right adrenal gland is normal in size (1.55 cm long x 0.69 cm at cranial pole and 0.47 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

**REFERRING VET**

Dr. Aparicio  
Massanett

**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**

19007

**Liver**

Liver is subjectively enlarged (swollen contour) without disruption of architecture. It has a normal homogenous echotexture. Parenchyma is diffusely hyperechoic characterized by less prominent than normal portal vein walls and increased echogenicity relative to the spleen and falciform fat. No focal lesions are observed. 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 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 area of the pancreas contains irregular hyperechoic pancreatic remodeling.

### ***Free Abdomen***

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

## **ULTRASONOGRAPHIC FINDINGS**

- Hyperechoic hepatomegaly – This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible but considered less likely.
- Hyperechoic pancreas – This finding is suggestive of pancreatic fibrosis, possibly secondary to chronic pancreatitis. A TLI is recommended to rule out exocrine pancreatic insufficiency (EPI), especially if clinical signs (weight loss, diarrhea, etc.) are present.

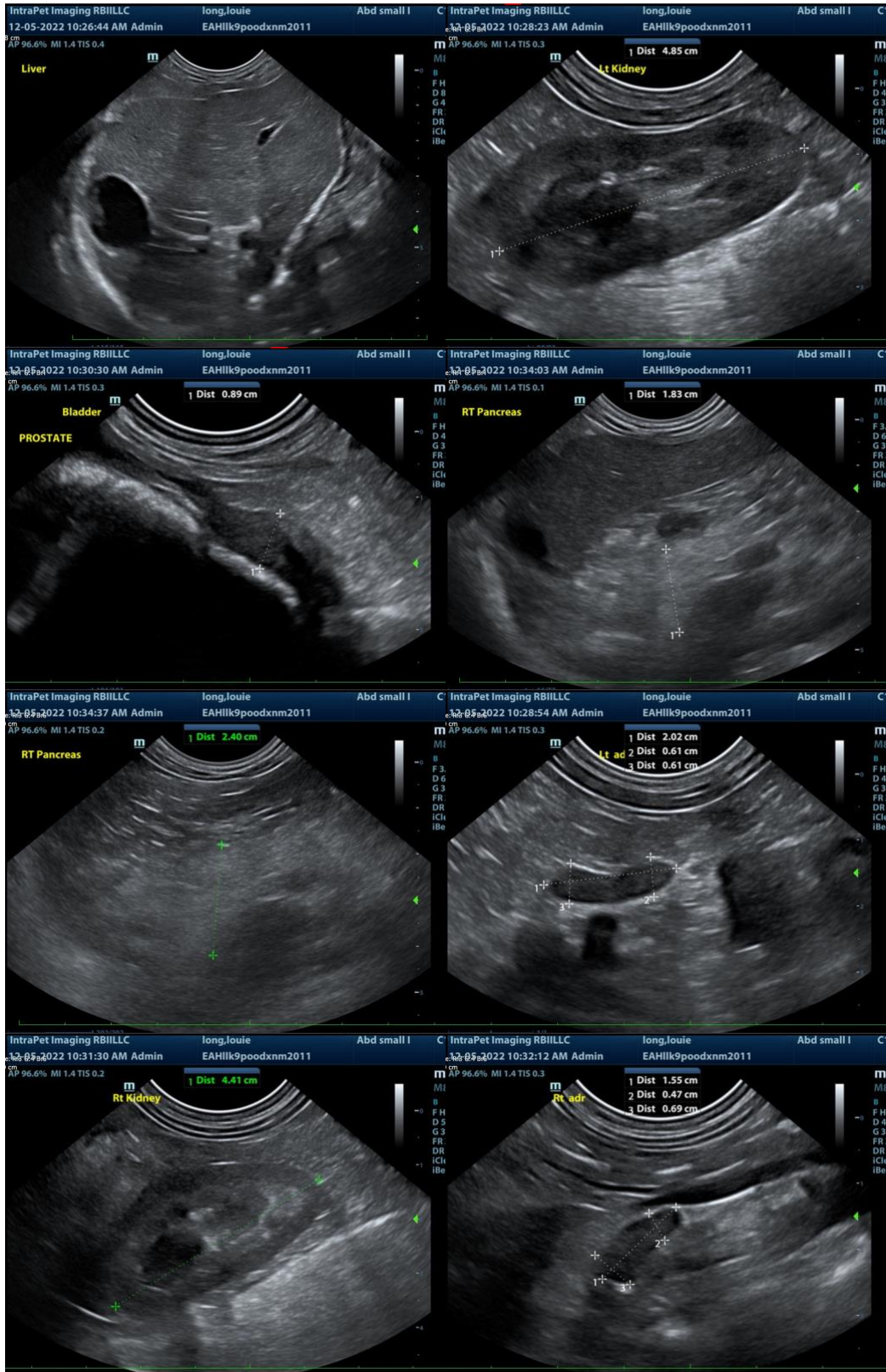
## **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

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.

Given this patient's concurrent hypertriglyceridemia, etc., especially if the sample was fasted, transition to a low-fat diet could be considered if tolerated. If the sample was not fasted, recheck of a fasted sample is recommended.

Additionally, given the pancreatic changes, a 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.

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