

**DATE PRESENTING CLINICAL SIGNS**

9/28/22 ALP elevation mild found on lab work. Was borderline last year and now in the 300s. Patient is not clinical. O prefers to screen to make sure no abnormalities

PATIENT

Lucy Wilson
 Current Medications: None listed.
 Lab Results: ALP 320 H, Chol 410 H, CI 105 L, all other WNL
 Date of Previous IntraPet Ultrasound: No previous.
 Sedation: Not required to complete full diagnostic ultrasound.
 Stat Report: Not requested.

SPECIES

Canine

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**BREED**

Schnoodle

Urinary System

Urinary bladder is adequately distended. It has a normal uniform wall thickness. Contents include primarily anechoic fluid with occasional echogenic non-shadowing debris, most consistent with exfoliated cells, mucous and/or small blood clots. Both sterile inflammation as well as urinary tract infection can also present with echogenic debris. No masses or cystoliths are observed. The trigone and visible pelvic urethra are normal in thickness with a smooth mucosal surface.

SEX

Spayed Female

AGE

6/24/11

The right kidney is normal in size (4.68 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 or infarcts observed. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

WEIGHT

17.7 Pounds

The left kidney is normal in size (4.38 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 or infarcts observed. Non-obstructive linear multifocal hyperechoic diverticular foci with acoustic shadowing are noted.

INTERPRETED BY

Beth Johnson, DVM
 DACVIM

Adrenal Glands

The right adrenal gland is normal in size (2.1 cm long x 0.63 cm at the cranial pole and 0.48 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

IMAGING PERFORMED BY

Stephanie Warga
 RDCS, RVT

The left adrenal gland is normal in size (1.8 cm long x 0.61 cm at the cranial pole and 0.60 cm at the caudal pole), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

HOSPITAL NAME

PetVet of Clarksville

Spleen

The 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). An approximately 0.50 cm hypoechoic non-capsule disrupting nodule is noted near the head of the spleen is noted. A 1.5 cm mixed, primarily hypoechoic nodule is noted in the mid body, non-capsule disrupting. Splenic vasculature appears normal.

REFERRING VET

Dr. Olney

INVOICE

41723

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 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 stomach wall is normal in thickness (canine < 0.5 cm and feline < 0.4 cm) 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 (canine duodenum < 0.5 cm and feline duodenum < 0.4 cm; other < 0.3 cm). 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 (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

The pancreatic parenchyma is appropriately isoechoic to surrounding tissue. Visible capsule is smooth and normal in contour. There is no visible pancreatic duct dilation. There is no evidence of active peripancreatic inflammation.

Free Abdomen

There is no evidence of free peritoneal effusion noted in these images.

There is no apparent lymphadenopathy noted in these images.

PRIMARY 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.
- **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

- Urinary bladder debris
- **Hypo to anechoic splenic nodules** – likely represent benign lesions such as cyst, hematoma, nodular hyperplasia, extramedullary hematopoiesis, etc., however while considered less likely, infiltrative neoplasia can mimic benign lesions, and cannot be ruled out.

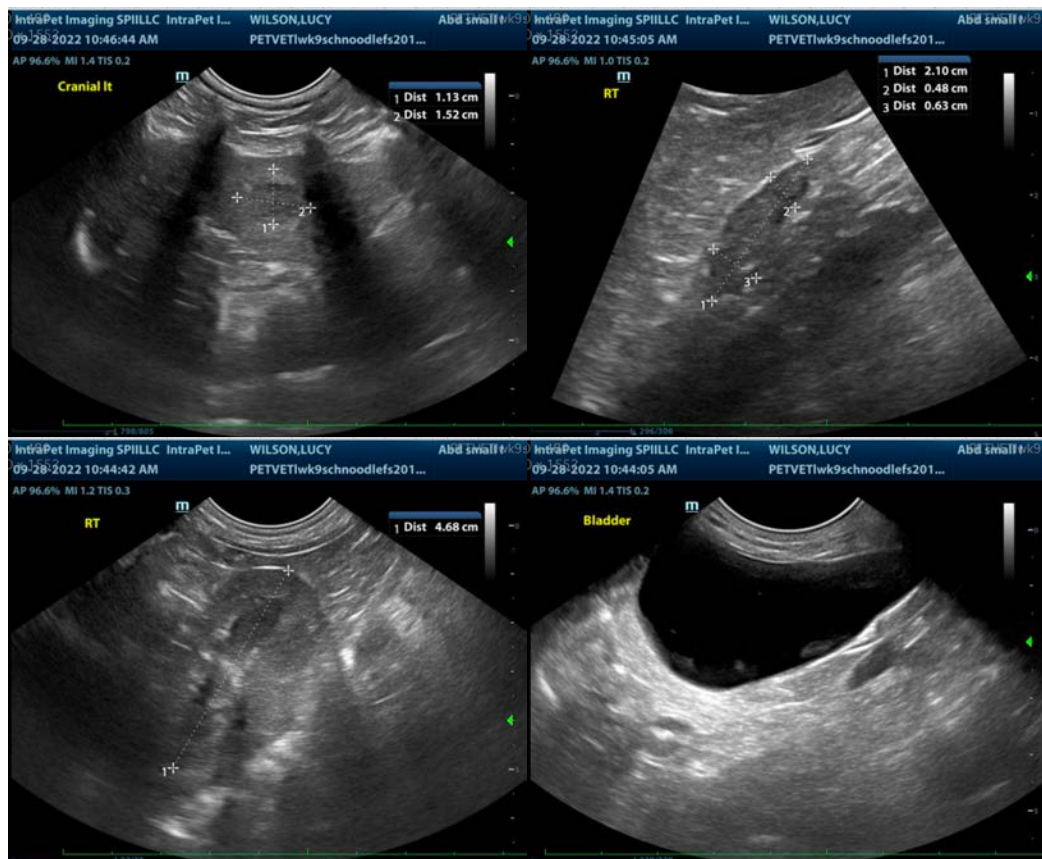
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

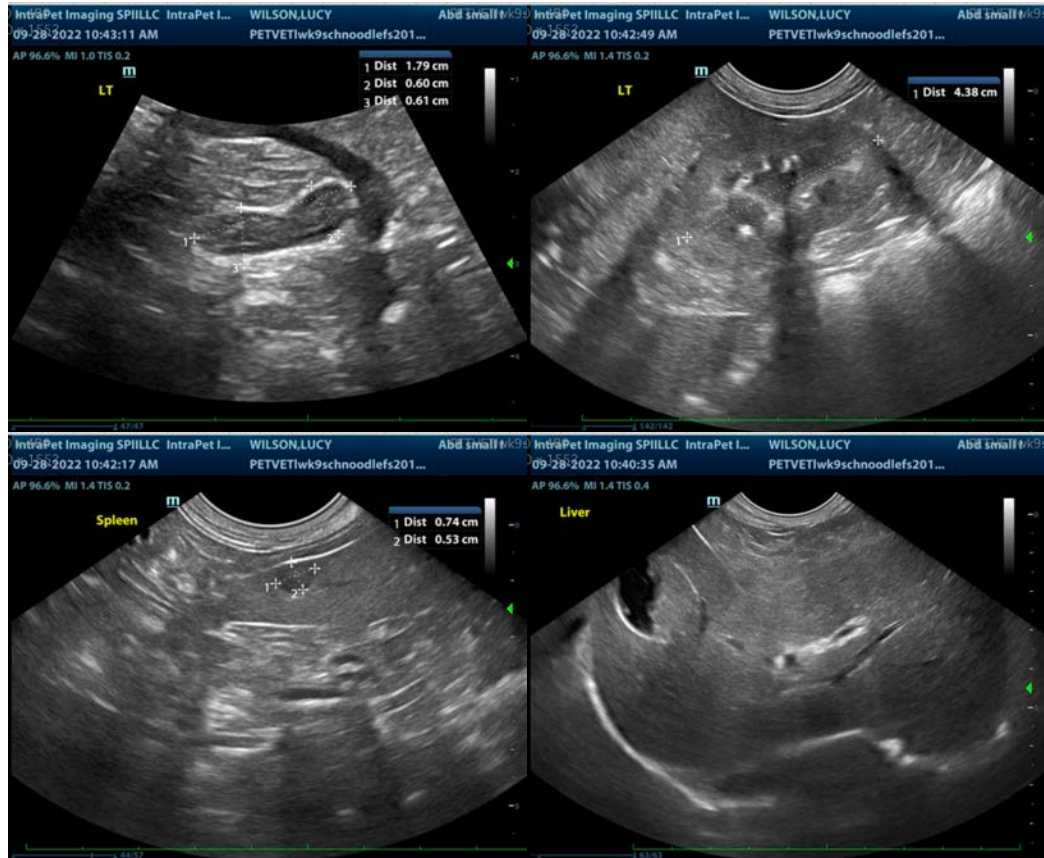
Differentials for an increased ALP are vast and non-specific. Differentials include, but are not limited to, benign nodular hyperplasia which occurs in 70% of older dogs and often does not result in an abnormal ultrasound, reactive or idiopathic/vacuolar hepatopathy, cholestasis and/or hyperadrenocorticism 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.

Specifically for this patient, early hyperadrenocorticism may be present. However, testing/treatment is not indicated without clinical signs. However, regardless of clinical signs, urinalysis and, if indicated based on urinalysis results, urine culture are recommended. If protein is present in an otherwise quiet sediment, protein quantification with a urine protein to creatinine ration is recommended.

Given the gallbladder debris, a course of Ursodiol could be considered, however isn't necessary to maintain long-term if improvement in ALP is not noted.





The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. 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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