



PATIENT

Bruno Ayala

SPECIES

Canine

BREED

Mixed

SEX

Intact Male

AGE

1 Year 8 Months

WEIGHT

9.13 pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Gabriel Ferrer
DVM

HOSPITAL NAME

Pulse Pet Ultrasound
Services

REFERRING VET

Dra. Sonia Cajigas

INVOICE

13125

DATE

01/12/26

PRESENTING CLINICAL SIGNS

Px presented as a referral for an abdominal ultrasound due to elevated ALT value. Px presented to referring DVM for a routine check and when the Chem showed an elevation in the ALT, Px was prescribed Denamarin. The Denamarin caused the Px to develop diarrhea and rDVM suggested to halt the Mx, once the Mx was stopped, the diarrhea stopped as well. No lethargy, anorexia, vomiting, or further diarrhea was reported by the client.

Abnormal PE/Chem/CBC/UA Results: Bloodwork attached below for your reference: HGB (21.3g/dL) MCH (26.2pg) MCHC (41g/dL) ALT (463U/L) ALKP (17U/L)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

Urinary bladder is only mildly distended. Visible contents are anechoic. Urinary bladder wall is unable to be fully assessed for pathology without further distension. No visible masses or definitive cystoliths are observed. The trigone and visible pelvic urethra are normal thickness with a smooth mucosal surface. In the face of urinary signs and/or suspected urinary bladder pathology, reassessment after complete filling is recommended.

Prostate is normal in size for an intact male. Parenchyma is diffusely homogenous and relatively hyperechoic. Normal distinct margins and symmetrical bilobed shape are maintained. The prostate measured 2.5 cm wide in the transverse view.

Both testicles are visualized. The left testicle is visualized without evident pathology. The right testicle is labeled cryptorchid inguinal.

Left kidney is normal in size (3.96 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.

Right kidney is normal in size (4.13 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 (0.40 cm at cranial pole and 0.39 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.38 cm at cranial pole and 0.41 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



PATIENT

Bruno Ayala

SPECIES

Canine

BREED

Mixed

SEX

Intact Male

AGE

1 Year 8 Months

WEIGHT

9.13 pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Gabriel Ferrer
DVM

HOSPITAL NAME

Pulse Pet Ultrasound
Services

REFERRING VET

Dra. Sonia Cajigas

INVOICE

13125

DATE

01/12/26

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.

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 primarily fluid as well as some echogenic non-shadowing luminal contents and gas consistent with normal chyme. There is 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 (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

Pancreas

Pancreas is prominent (enlarged) in size and mildly irregular in shape with a slightly undulating contour. Parenchyma is coarse in echotexture and heterogenous to hypoechoic in echogenicity.

Free Abdomen

There is no visible free peritoneal effusion noted in these images.

There is no apparent pathologic lymphadenopathy noted in these images.

ULTRASONOGRAPHIC FINDINGS

Primary Findings

- 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, other reactive hepatopathy, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out. While there are no suspicious factors in these images at this time to indicate a vascular anomaly, a vascular anomaly or anomalies can't be definitively ruled out.
- The pancreatic changes are mild/subtle, but chronic low-grade smoldering pancreatitis can't be ruled out and should be suspected in the face of appropriate clinical signs.

Secondary Findings

- Right cryptorchid testicle labeled inguinal.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

- Given the pancreatic changes, especially if there are any clinical signs of chronic low-grade



PATIENT

Bruno Ayala

SPECIES

Canine

BREED

Mixed

SEX

Intact Male

AGE

1 Year 8 Months

WEIGHT

9.13 pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Gabriel Ferrer
DVM

HOSPITAL NAME

Pulse Pet Ultrasound
Services

REFERRING VET

Dra. Sonia Cajigas

INVOICE

13125

DATE

01/12/26

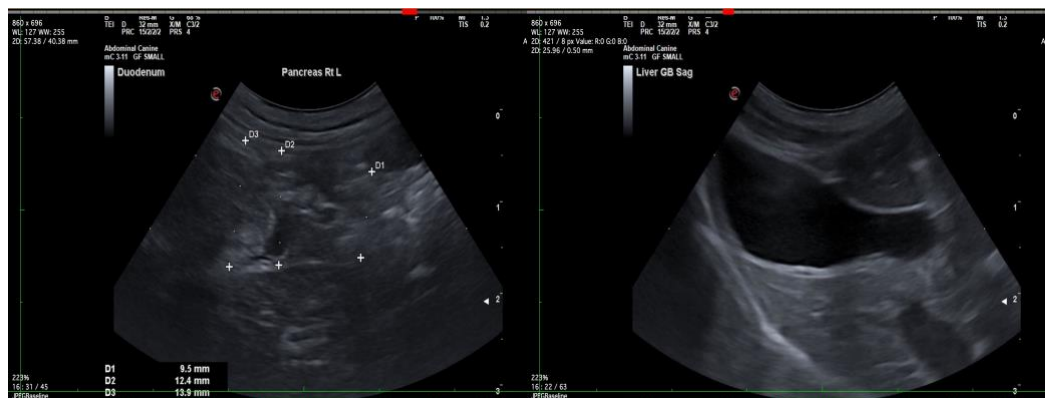
smoldering pancreatitis, a gastrointestinal malabsorption panel (including cobalamin, folate, TLI and PLI) to Texas A&M GI Laboratory is recommended for further evaluation of GI and pancreatic function.

- In the meantime, differentials for a primary hepatocellular injury liver enzyme pattern (increased ALT) depend partially on the level of increase. Mild increases (less than 2 times normal) are often a “reactive hepatopathy” or the liver’s response to an insult elsewhere in the body including, but not limited to, pancreatitis, gastroenteritis, parasitic disease, dental disease, vacuolar or endocrine hepatopathy from diabetes mellitus or hyperadrenocorticism (steroid-induced), hypoadrenocorticism, certain drugs (e.g. phenobarbital, corticosteroids, azathioprine, etc.), and muscle ALT (more likely if AST and CK concurrently increased).

It is a good indicator of active liver damage (cell membrane disruption, cellular necrosis), however, if the value is increased by at least 3-4 times normal. Differentials include infectious disease, including Leptospirosis, inflammatory disease (i.e. active hepatitis, copper, other), toxic insult as well as infiltrative neoplasia.

ALT levels vary in cases of vascular anomalies such as microvascular dysplasia and portosystemic shunts (PSS) but are often less significantly increased.

- Testing for Leptospirosis could be considered.
- Bile acids could be considered, if Tbili is not increased.
- An empirical course of antibiotics and empirical hepatic nutraceuticals may be tried, 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.





PATIENT

Bruno Ayala

SPECIES

Canine

BREED

Mixed

SEX

Intact Male

AGE

1 Year 8 Months

WEIGHT

9.13 pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Gabriel Ferrer
DVM

HOSPITAL NAME

Pulse Pet Ultrasound
Services

REFERRING VET

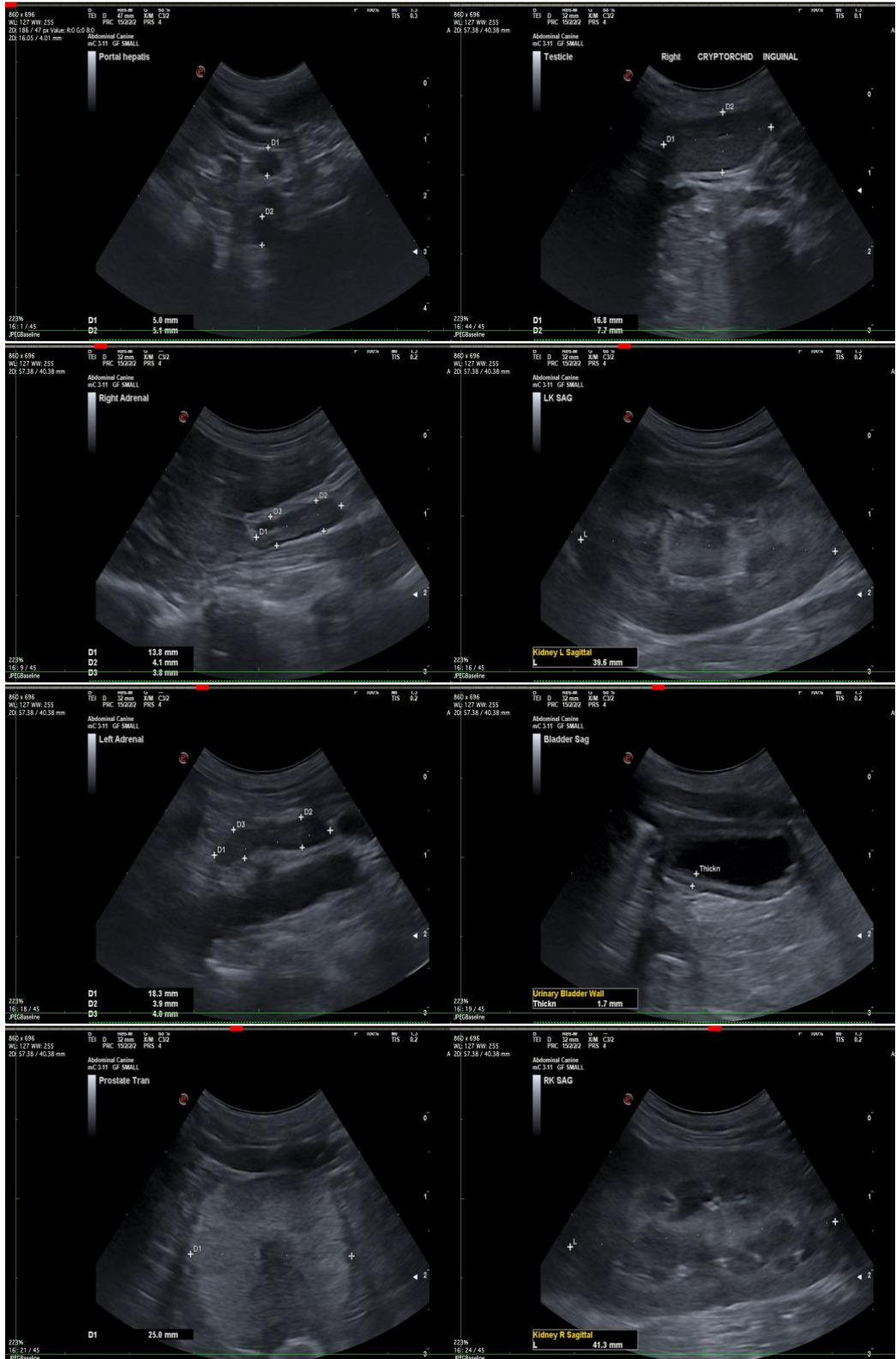
Dra. Sonia Cajigas

INVOICE

13125

DATE

01/12/26





PATIENT

Bruno Ayala

SPECIES

Canine

BREED

Mixed

SEX

Intact Male

AGE

1 Year 8 Months

WEIGHT

9.13 pounds

INTERPRETED BY

Beth Johnson, DVM
DACVIM

IMAGING PERFORMED BY

Dr. Gabriel Ferrer
DVM

HOSPITAL NAME

Pulse Pet Ultrasound
Services

REFERRING VET

Dra. Sonia Cajigas

INVOICE

13125

DATE

01/12/26

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.

Beth Johnson, DVM DACVIM

info@sonopath.com