



PATIENT PRESENTING CLINICAL SIGNS

PATIENT Piper Candy **PRESENTING CLINICAL SIGNS** Significantly elevated ALT (1977 last night and 841 this morning), see below. BCS 4.5/5

SPECIES

Canine

BREED

Pomeranian

Abnormal PE/Chem/CBC/UA Results: Piper started vomiting and trembling yesterday morning. She had vomited 5 times mostly has been brownish orange color, sometimes with some kibble. This was a sudden change, she has been doing well at home no concerns. No tenderness that O has noticed. Current medications: T-Relief Pain Relief Tab, OMEGAs, Benazepril, Telmisartan, and amlodipine. Patient was given fluids, cerenia, denamarin, ursodiol, Metronidazole and Clavamox last evening. Suspecting cholangiohepatitis/pancreatitis. Patient has a history of PLN, Hypertension. Abnormal CPL last evening. No vomiting overnight, did well. Mild neutrophilic leukocytosis, ALP 1307, GGT 23, ALT 1977, Lac 3.0 last evening.

SEX

Spayed Female

AGE

10 Years

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

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

WEIGHT

20 Pounds

The right kidney is normal in size (4.8 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 mineral or infarcts observed. Mild pyelectasia noted (possible the result of overnight fluid therapy).

INTERPRETED BY

Beth Johnson, DVM
DACVIM

The left kidney is normal in size (4.6 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 mineral or infarcts observed. Mild pyelectasia noted (possible the result of overnight fluid therapy).

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Dr. Katie Freson

Adrenal Glands

The area of the right adrenal gland is examined without evident pathology.

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The left adrenal gland is normal in size (0.60 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.

REFERRING VET

Dr. Katie Freson

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). No focal nodules or masses are observed. Splenic vasculature appears normal.

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Liver

Liver is subjectively enlarged (swollen contour). Mild parenchymal remodeling with diffusely mildly coarse architecture and increased portal markings is present. No focal nodules or masses are observed. Visible vasculature and biliary tree appear normal without distension or congestion.

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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.



PATIENT

Gastrointestinal

Piper Candy

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction, foreign material or infiltrative disease. Pyloric outflow tract appears patent.

SPECIES

Canine

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.

BREED

Pomeranian

The visible colon is normal in wall thickness (< 0.2 cm) and layering. Contents are consistent with normal formed feces and gas.

SEX

Spayed Female

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.

AGE

10 Years

Free Abdomen

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

WEIGHT

20 Pounds

There is no apparent lymphadenopathy noted in these images.

PRIMARY FINDINGS

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- **Hypoechoic hepatomegaly** – This appearance is consistent with an acute hepatopathy or acute cholangiohepatitis. Infiltrative neoplasia (round cell neoplasia) should also be considered.
- **Gallbladder debris** - Cholecytic debris is of unknown clinical significance. It can be seen with biliary stasis from fasting or illness. Cholecytic 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.

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SECONDARY FINDINGS

- **Mild pyelectasia bilaterally** – likely secondary to the reported overnight fluid therapy.

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

REFERRING VET

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There is no ultrasonographically visible evidence of significant pancreatitis in these images at this time. However, pancreatitis cannot be definitively ruled out, even without evidence of it ultrasonographically. However, given the appearance of this patient's liver, a primary hepatopathy seems a more likely cause of this patient's reported clinical signs and liver enzymes.

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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.

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Therefore, recommendations include testing for Leptospirosis if not recently evaluated, as well as a fine needle aspirate of the liver if patient's coagulation status is appropriate. In the meantime, continued



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medical management, as is already in place for pancreatitis/cholangiohepatitis, etc. is recommended with fluids, gastrointestinal support as needed, hepatic nutraceuticals, broad-spectrum antibiotics, etc.

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WEIGHT

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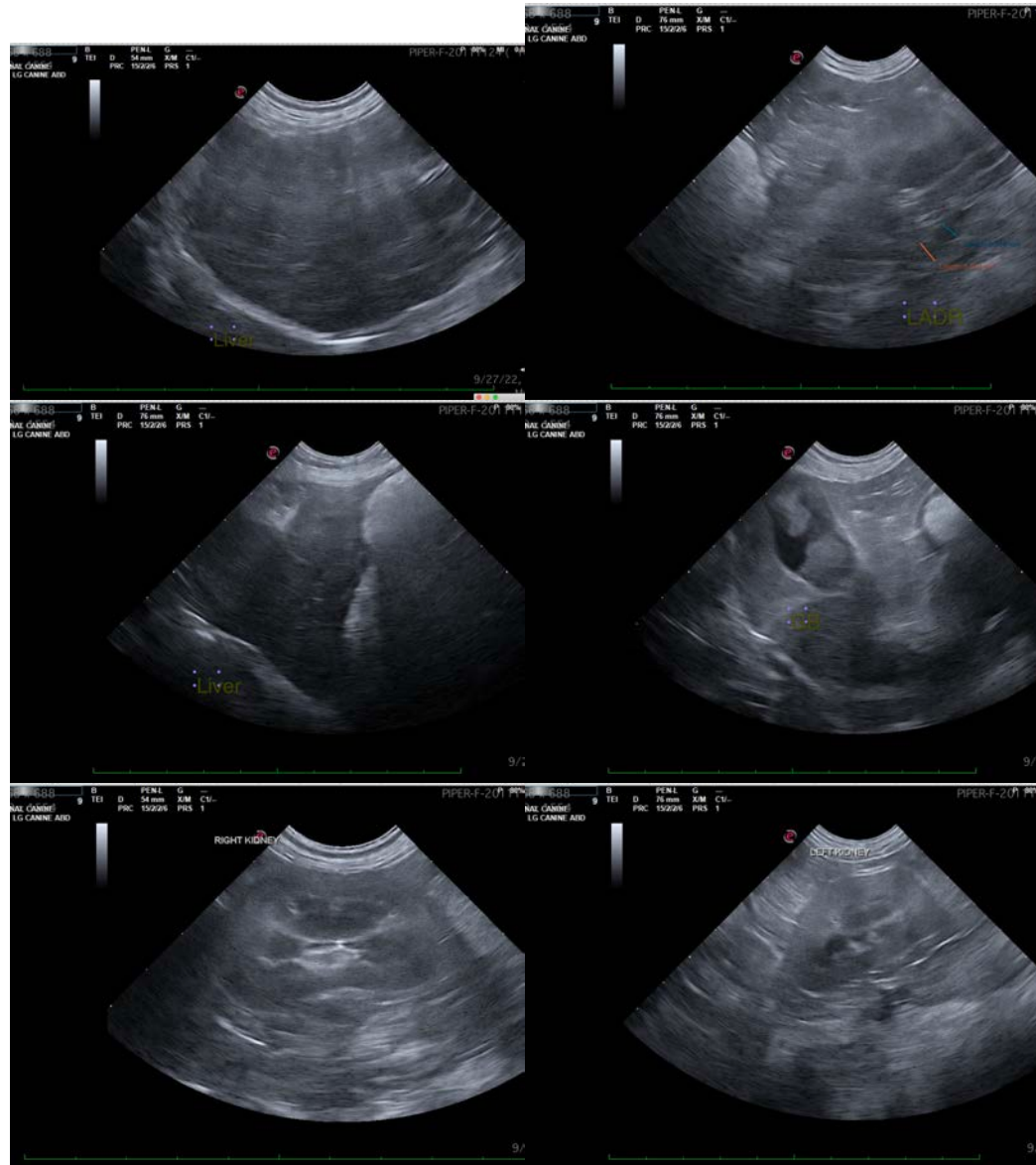
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Dr. Katie Freson

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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.

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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

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