



**PATIENT PRESENTING CLINICAL SIGNS**

**Moira Wolf**  
History of elevated liver enzymes found on pre-anesthetic blood work prior to cryptorchid neuter on 4/22/22. Recheck chemistry on 8/25/22 showed continued elevated of ALT. Mild facial fold dermatitis, but otherwise exam on 8/25/22 was WNL and acting normal at home.

**SPECIES**

**Feline**  
Abnormal PE/Chem/CBC/UA Results: CBC/chem 4/22/22: ALT 188, ALP 98, Neutrophils 14.28, WBC 21.41. Recheck chemistry 8/25/22: ALT 217, ALP 56

**BREED**

Persian

**SEX**

Neutered Male

**AGE**

1 Year

**WEIGHT**

8.38 Pounds

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder is moderately 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.

The right kidney is normal in size (3.38 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, mineral or infarcts observed.

The left kidney is normal in size (3.48 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**

The right adrenal gland is normal in size (0.48 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

The left adrenal gland is normal in size (0.38 cm), shape and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

**IMAGING PERFORMED BY**

Jenna Walsh, CVT

**Spleen**

Spleen is subjectively large in size with normal smooth margins. Parenchyma is normal in echogenicity with a coarse/heterogenous echotexture. No focal nodules or masses are observed. Splenic vasculature appears normal.

**HOSPITAL NAME**

West Eugene AH

**Liver**

The 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. Normal portal vein to vena cava ratio of 1:1.

**REFERRING VET**

Dr. Powers

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The 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.

**DATE**

9/14/22

**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.



**PATIENT**

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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.

**SPECIES**

Feline

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

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***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.

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Neutered Male

***Free Abdomen***

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

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Mesenteric lymphadenopathy is noted.

**ULTRASONOGRAPHIC FINDINGS**

**WEIGHT**

8.38 Pounds

- **Coarse splenomegaly** – can be associated with congestion caused by sedation (if sedated) but can also be associated with diffuse infiltrative disease. Both benign conditions such as extramedullary hematopoiesis, lymphoid hyperplasia, amyloidosis (leave amyloidosis out if canine) as well as infiltrative neoplastic diseases such as round cell neoplasia should be considered.
- Mesenteric lymphadenopathy – like a normal young patient variant or reactive lymphadenopathy. Infiltrative neoplasia can't be ruled out but is considered less likely.
- There is no ultrasonographically visible reason for this patient's increased liver enzymes.

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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

**IMAGING PERFORMED BY**

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This patient's reported coagulation panel results are likely a factor 12 deficiency in a cat with likely no clinical consequence. Confirmation could be obtained by submitting a sample for coagulation factor analysis, but if platelet count is normal, increased risk from aspirating tissues based on this finding is considered very minimal, if any.

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Therefore, recommendations include a fine needle aspirate of the spleen and liver +/- enlarged mesenteric lymph nodes if they can be safely reached if other coagulation panel results including platelet count are normal.

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Based on these images, the likelihood of a portosystemic shunt is very low, if at all. However, bile acids are still recommended for further evaluation of liver function.

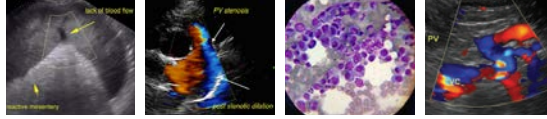
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In the meantime, an empirical course of broad-spectrum antibiotics and hepatic nutraceuticals with monitoring of liver enzymes for improvement could be considered.

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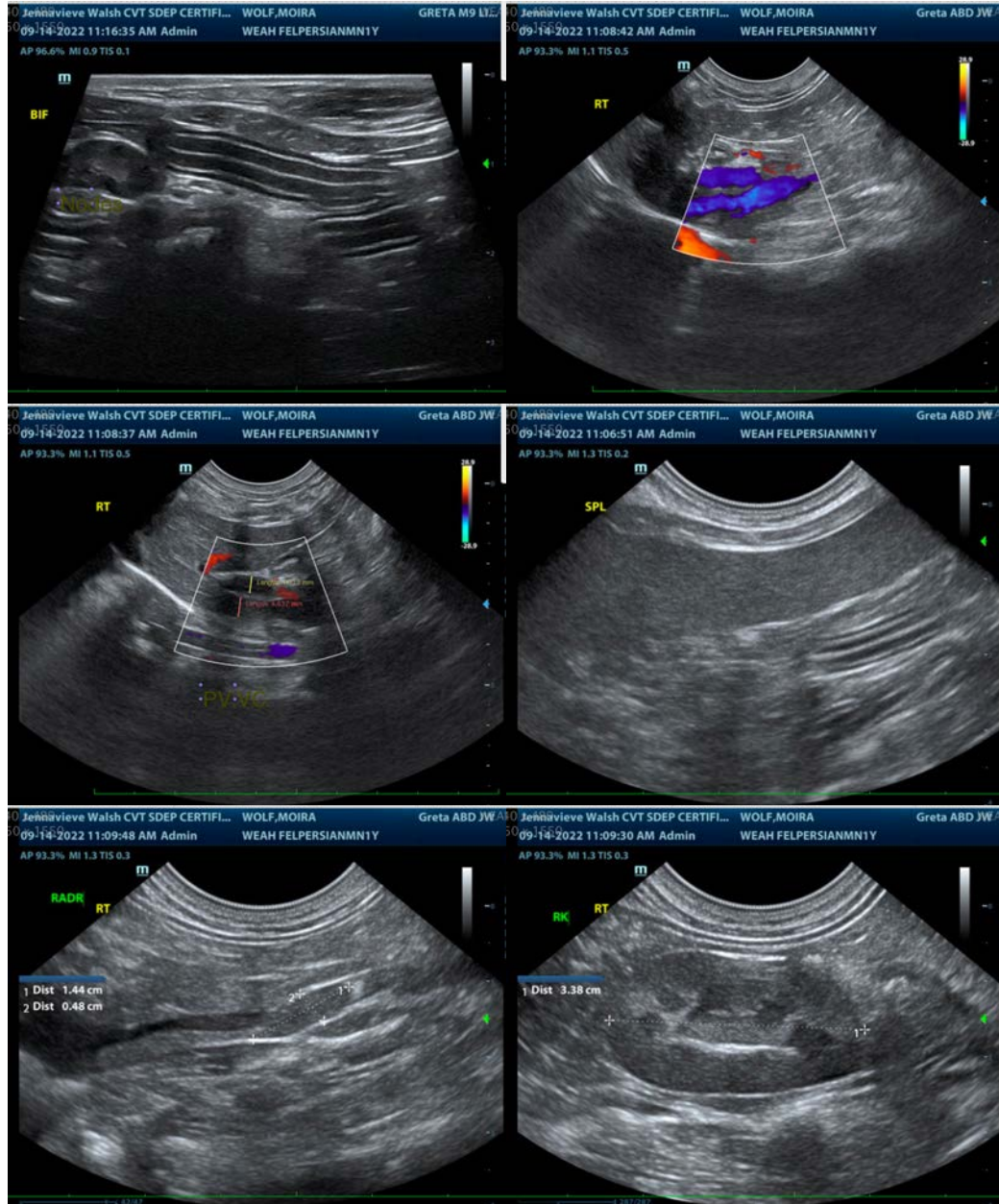
Dr. Powers

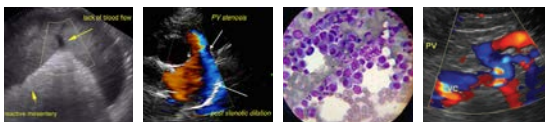
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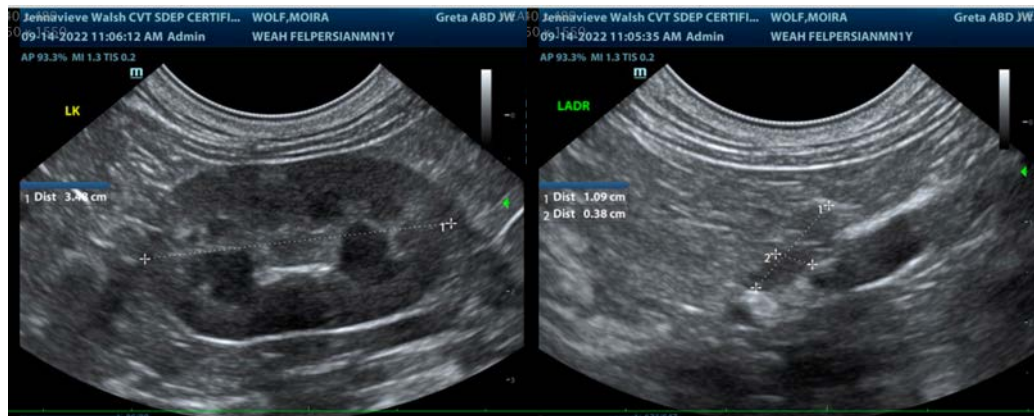
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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**  
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