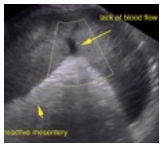
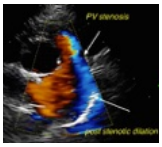
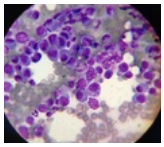
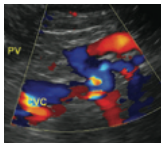
SonoPath
Clinical Sonography & Telecytology
EDUCATIONAL TELECONSULTATION SERVICES™

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Fiesta Wilch

SPECIES
Canine

BREED
Shiba Inu

SEX
Spayed Female

AGE
13y

WEIGHT
16.4lbs

INTERPRETED BY
Beth Johnson, DVM DACVIM

IMAGING PERFORMED BY
Dr. Goodman

HOSPITAL NAME
Evandale-Blue Ash PH

REFERRING VET
Dr. Wehmer

INVOICE
10311

DATE
7/11/2023

PRESENTING CLINICAL SIGNS

Hx of liver enzyme elevations and arthritis. Patient presented 9/23/20 for annual exam with CBC/Chem/UA/T4 to the lab where results showed all liver enzymes were elevated. Started patient on Denamarin and did a short course of metronidazole and amoxi tri clav. Rechecked liver values on 10/15/20 and there was improvement, but they were still elevated. Patient then started having on and off diarrhea with minimal improvement with Tylan powder and bland food. Recheck ALP and ALT on 11/17/20 and her ALT normalized but her ALP was still elevated. She was still taking the Denamarin at this time. Denamarin was d/c by owner around the start of 2021. on 10/11/2021, patient presented for annual wellness. Bloodwork showed elevated Potassium, anemia, and mildly elevated ALP. Rechecked electrolytes and PCV 11/2/21 and values had normalized. 11/28/22 bloodwork showed continued elevations with her ALP and ALT. Owner elected to not pursue medication or ultrasound at that time. Rechecked values 1/6/23, ALT returned to normal and ALP still elevated. Started another course of amoxi tri clav, metronidazole and Denamarin. Values were rechecked 6/2/23, ALP and ALT continued to elevate, cholesterol low, SDMA in the grey zone. Owner opted for abdominal ultrasound today (7/11) and renal panel recheck. Patient has not been clinical aside from on and off discomfort from her arthritis. Still having intermittent soft stool that is more yellow in color.

Abnormal PE/Chem/CBC/UA Results: bloodwork attached.

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 (4.02 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 (3.8 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 pyelectasia, mineral or infarcts observed.

Adrenal Glands

The right adrenal gland is unable to be well visualized.

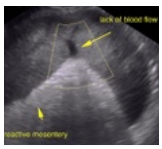
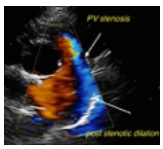
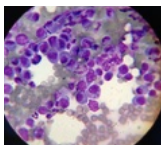
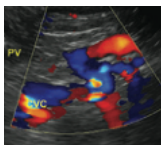
The left adrenal gland is normal in size (cranial 0.55 cm, caudal 0.73 cm), shape, and contour. Corticomedullary structure is unremarkable. Visible surrounding vasculature appears normal.

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.

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.

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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.

Gastrointestinal

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.

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 mildly distended with echogenic non-shadowing luminal contents and gas consistent with normal ingesta. There is no evidence of obstruction or foreign material noted.

The visible colon is normal, but it is moderately to markedly over-distended with liquid stool. 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.

ULTRASONOGRAPHIC FINDINGS

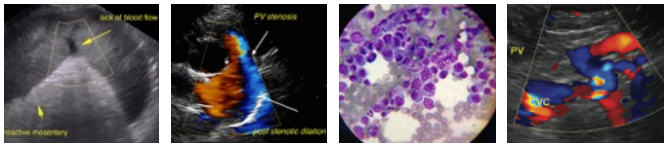
- **Hyperechoic hepatomegaly** – This appearance is non-specific and most consistent with a benign steroid (endocrine) or vacuolar hepatopathy or reactive or idiopathic hepatopathy. Inflammatory and/or infiltrative disease (such as round cell neoplasia) are also possible but considered less likely.

- This appears to be postprandial study and the colon appears to contain liquid stool consistent with this patient's history of intermittent diarrhea.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

A fine needle aspirate of the liver could be considered if this patient's coagulation status is appropriate. However, given the chronic intermittent gastrointestinal history and the improvement/normalization of liver enzymes when the soft stool is managed with antibiotics, etc. It's possible that chronic gastrointestinal disease is contributing to the intermittently and now progressively increased in liver enzymes, through inflammation, ascending infections, etc.

Therefore, other diagnostic recommendations include further evaluation of the chronically intermittent soft stool. Beginning with a fecal exam if not recently evaluated as well as 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. A fecal enteropathogen PCR panel to Texas A&M GI Laboratory could be considered for further evaluation of possible infectious disease. Contact the lab for recommendations on how long to discontinue antibiotics prior to obtaining a stool sample for fecal PCR testing.



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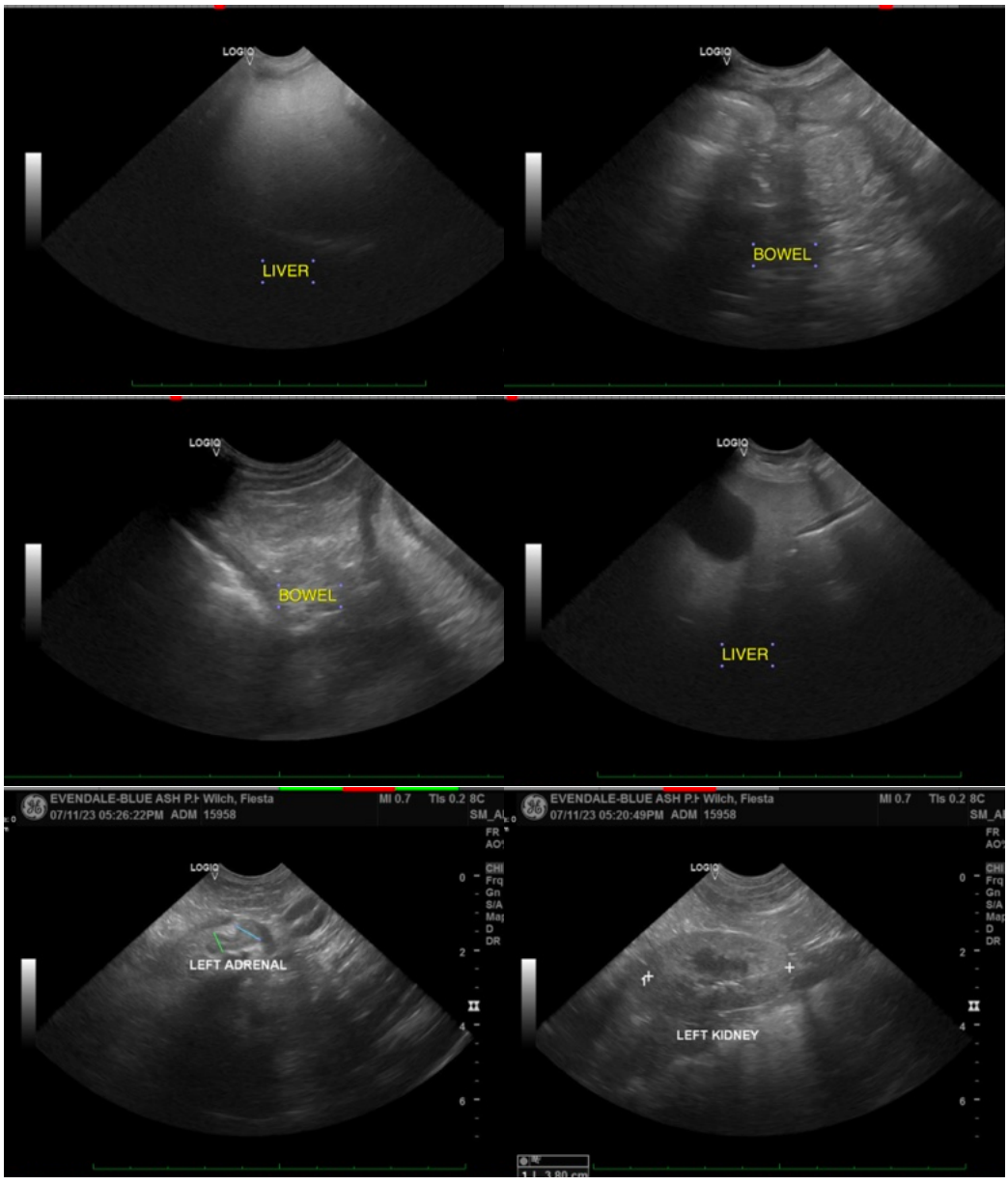
In the meantime, in addition to hepatic nutraceuticals, empirical medical management of the gastrointestinal disease is recommended. Beginning with empirical deworming with a 5-day course of Panacur as well as a probiotic such as Visbiome or Proviable and if tolerated a transitioning diet could be considered. Beginning with a Biome diet or potentially a hydrolyzed protein diet or even a low-fat diet, based on trial-and-error response.

Please note this study is limited due to a large/excess amount of artifact from a diffusely gas and fluid distended GI tract.



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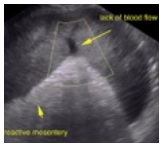
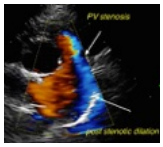
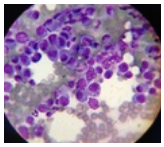
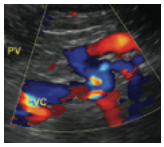

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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
info@sonopath.com