

**PATIENT**

Schuyler Germain

SPECIES

Canine

BREED

Havanese

SEX

Neutered Male

AGE

4 ½ years

WEIGHT

14.5 lbs

INTERPRETED BYBeth Johnson, DVM
DACVIM**IMAGING PERFORMED BY**

Amy Mayhew, LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VET

Union Lake VH

INVOICE

40063

DATE

10/12/22

PRESENTING CLINICAL SIGNS

History: Elevated Liver Values at wellness appointment 7/27/22. Rechecked 10/7/22 and still elevated.

Abnormal PE/Chem/CBC/UA Results: ALT 230 Lepto and Bile acids pending.

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**Urinary System**

Urinary bladder is adequately 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.

Prostate (neutered) is normal in size, echotexture and echogenicity for a neutered male.

Left kidney is normal in size (4.11 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 (4.19 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 (0.32 cm at cranial pole and 0.36 cm at caudal pole), shape and overall architecture, echogenicity and echotexture. Visible surrounding vasculature appears normal.

Right adrenal gland is normal in size (0.63 cm at cranial pole and 0.38 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

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.

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Gastrointestinal

The visible stomach wall is normal in thickness and layering. The lumen of the stomach is mildly distended with very echogenic reverberation artifact from intraluminal gas. There is no evidence of obstruction, foreign material or infiltrative disease; however, complete visualization of far wall is partially inhibited by gas. 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

The observed pancreas appears appropriately isoechoic to surrounding omental fat. Visible capsule is smooth and normal in contour. Visible pancreatic parenchyma is homogenous and unremarkable. 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**Primary Findings**

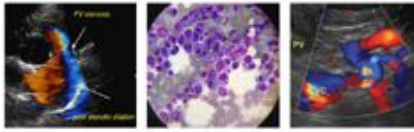
- **Unremarkable/normal abdomen.**
- An obvious cause for the reported increased liver enzymes is not identified in these images. Microscopic disease such as Leptospirosis, bacterial cholangiohepatitis, chronic active hepatitis, copper-associated hepatotoxicity, other hepatotoxicity, infiltrative neoplasia (considered unlikely), etc. cannot be definitively ruled out.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Recommendations for this patient include the reportedly already pending Leptospirosis testing and bile acids. If the bile acids are high especially > 100, a recheck ultrasound using power Doppler to measure the portal vein to vena cava ratio at the porta hepatis or abdominal CT scan will be recommended. To help further identify/rule in/rule out extrahepatic portosystemic shunt. In the meantime, broad spectrum, empirical antibiotics and hepatic nutraceuticals are recommended with monitoring of the ALT for improvement. If ALT improves antibiotics should be continued until it either normalizes or plateaus. However, without improvement antibiotics should not be continued. Hepatic nutraceuticals are safer for administration long term.

IMAGING PERFORMED BY

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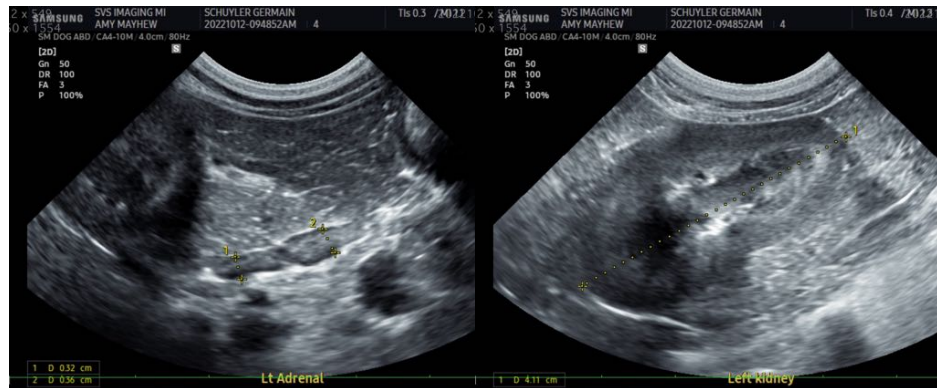
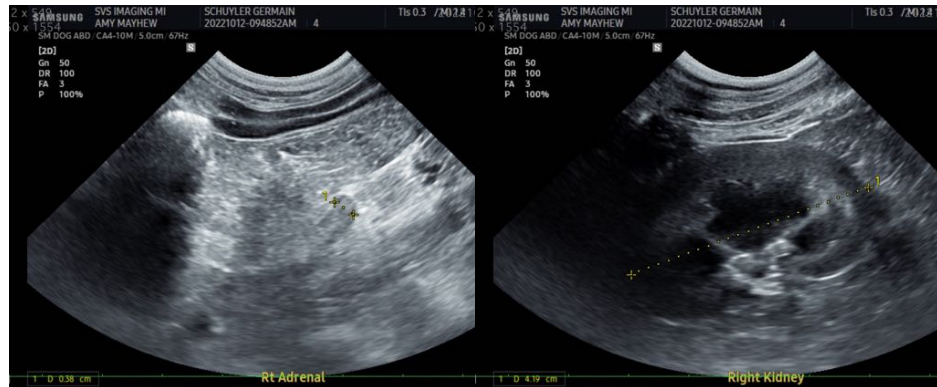
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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