

PATIENT PRESENTING CLINICAL SIGNS

Wilbert Orozco

SPECIES

Canine

BREED

Chihuahua

SEX

Neutered Male

AGE

10 years

WEIGHT

6 kg

INTERPRETED BY

Karen Ebersole, DVM,
DABVP (Canine and
Feline)

IMAGING PERFORMED BY

Dallas Reynolds, LVT

HOSPITAL NAME

Lone Mountain AH

REFERRING VET

Dr. Lilliana Munoz

INVOICE

13793

DATE

7.21.23

History: Hx of elevated liver enzymes for a little over a year. Started on low fat diet a year ago due to elevated cholesterol and triglyceride, normal since then. Recheck BW in May, started on Denamarin. Immediately post starting Denamarin P experienced PU/PD for 2 weeks which ended up resolving. Recheck BW today - Liver enzymes more significantly elevated today. Resting cortisol under 2 yesterday.

Abnormal PE/Chem/CBC/UA Results: 05/2022- ALP: 205, Chol: 399, Triglyceride: 2277 05/2023- ALP: normal, ALT: 231, GGT: 21 07/20/2023- Resting Cortisol: 1.4 07/21/2023- ALP: 241, ALT: 381, GGT: 31

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** was normal in size and shape. The serosal and mucosal surfaces were smooth and curvilinear. The bladder wall was normal in thickness for the volume of urine present. The urine was anechoic with mild suspended sediment. The ureters were not visible, which is normal. The bladder trigone was normal.

The residual **prostate** was visualized and found to be normal in size and echogenicity.

A medial iliac **lymph nodes** was visualized and found to be normal in size, shape and echogenicity.

Both **kidneys** were a normal size and shape, with a smooth capsule contour. A normal 1:3 cortex to medulla ratio was maintained. The echogenicity of the cortex was normal, with pinpoint cortical mineralizations present. There was a hyperechoic corticomedullary band, consistent with a medullary rim sign. This is a non-specific finding. It has been associated with interstitial nephritis, hypercalcemia, tubular necrosis, lymphoma and Leptospirosis. However, it is non-specific and can be seen in normal kidneys. The left kidney measured 4 cm in length. The right kidney measured 4.2 cm in length.

Adrenal Glands

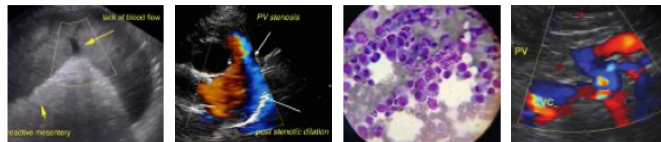
Both **adrenal glands** were visualized and found to be normal in size and shape. The capsule of each gland was smooth with no evidence of capsular expansion. The echogenicity and echotexture of each gland was normal. The left adrenal gland measured 5 mm at the cranial pole and 5 mm at the caudal pole. The right adrenal gland measured 10 mm at the cranial pole and 4 mm at the caudal pole.

Spleen

The **spleen** was normal size and shape with a smooth capsule contour. The spleen was in a normal position. The parenchyma had a finely textured and homogenous echogenicity. The vasculature was normal in structure, with no evidence of thrombus on power doppler examination.

Liver

The **liver** was subjectively normal in size, with a smooth capsule contour. The parenchyma was mildly heterogeneous. There may be a mild increase in portal markings. There were no overt masses on the still images provided.



PATIENT

The **gallbladder** was normal in size and shape. The gallbladder wall appeared mildly thickened with a mildly irregular mucosal lining. There appeared to be mild sludge accumulation, with no cystic duct dilation or visible obstruction.

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SPECIES

Gastrointestinal

Canine

The **stomach** was largely empty with normal size, shape, and position. The stomach wall was normal in thickness and maintained appropriate layering. The **small intestine** displayed normal curvilinear patterns throughout, with normal wall thickness and layering. Normal peristalsis was present. The visible **colon** wall was normal in thickness and layering. There were no visible masses or focal lesions.

BREED

Chihuahua

Pancreas

SEX

The left limb, body and right limb of the **pancreas** were visualized and found to be normal in size and shape. The pancreatic capsule was smooth, without deviation or expansion. The parenchyma was isoechoic to the surrounding mesentery. The pancreatic duct was normal in size and appearance. There was no evidence of discrete masses or inflammation.

Neutered Male

AGE

Free Abdomen

10 years

No peritoneal effusion or lymphadenopathy was noted on examination of the peritoneal cavity.

WEIGHT

ULTRASONOGRAPHIC FINDINGS

6 kg

- Renal aging changes and medullary rim sign bilaterally
- Mild gallbladder wall thickening and mucosal irregularity
- Mild heterogeneous liver parenchyma

INTERPRETED BY

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Karen Ebersole, DVM,
DABVP (Canine and
Feline)

The medullary rim sign is nonspecific and can be seen in both normal and abnormal kidneys. When associated with renal pathology, it has been linked with interstitial nephritis, hypercalcemia, tubular necrosis, lymphoma and Leptospirosis. A urinalysis is recommended, if not already performed.

IMAGING PERFORMED BY

The changes in the liver and gall bladder appear mild sonographically, and could represent either age related hepatic remodeling, inflammatory or infectious causes. There may be a low grade chronic cholangiohepatitis that is causing the liver enzyme elevation. Leptospirosis can't be ruled out, and Lepto titers/PCR should be considered.

Dallas Reynolds, LVT

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FNA of the liver could be considered for identification of inflammatory cell type, assuming normal coagulation parameters.

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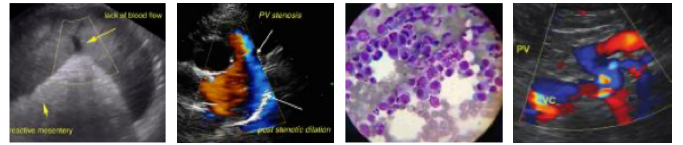
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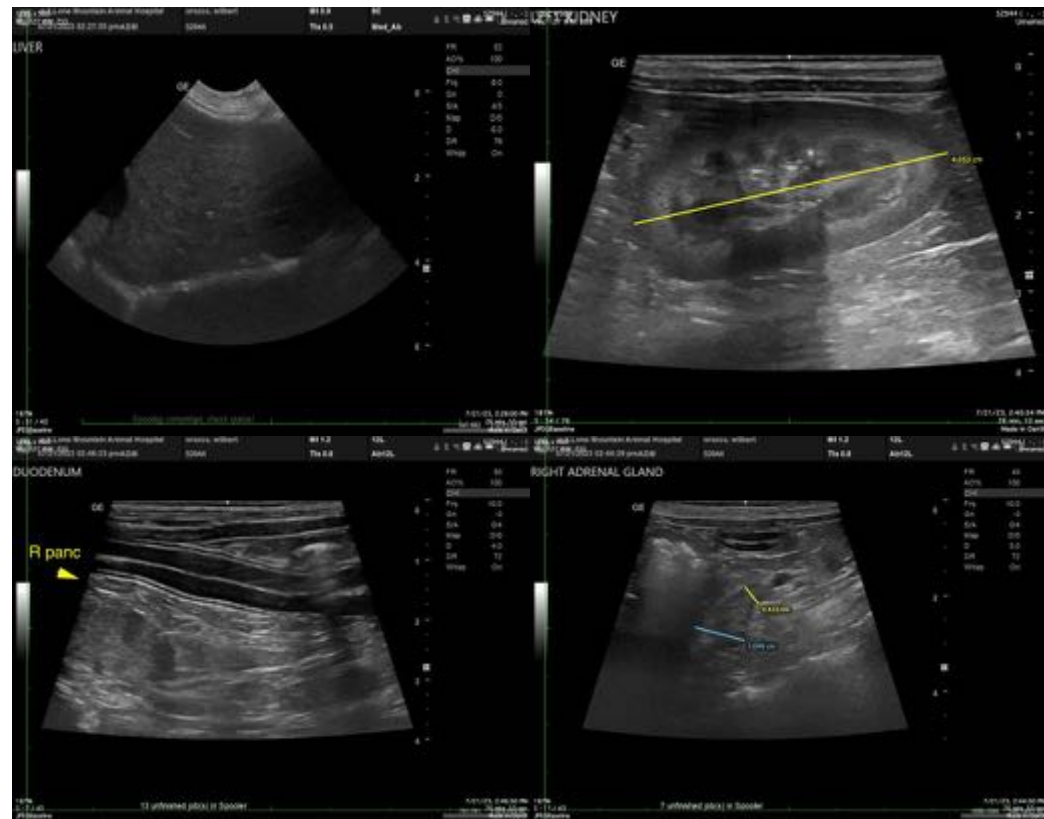
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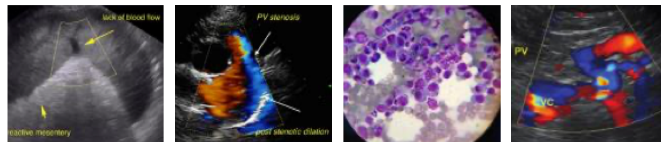
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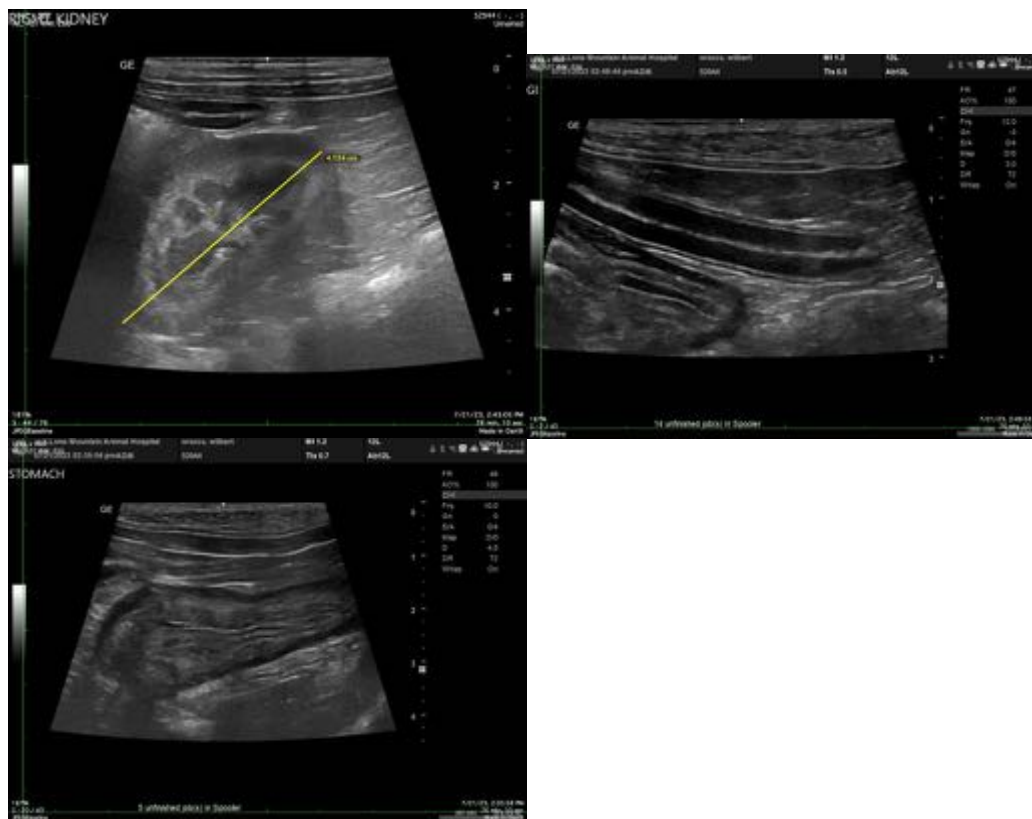
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Karen Ebersole, DVM, DABVP (Canine and Feline practice)
info@SonoPath.com