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Clinical Sonography & Telecytology
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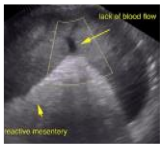

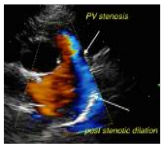

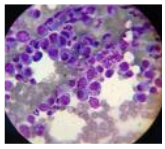
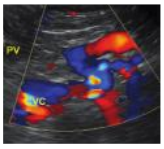

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Aspen Noyes

SPECIES

Canine

BREED

Chihuahua

SEX

Female intact

AGE

6

WEIGHT

4.8

INTERPRETED BY

R. McKenzie Daniel, DVM, DABVP (Canine and Feline)

IMAGING PERFORMED BY

Dr. Belan

HOSPITAL NAME

Strathmore VC

REFERRING VET

Dr. Ramerez

INVOICE

14901

DATE

9-15-22

PRESENTING CLINICAL SIGNS

Elevated liver enzymes on wellness exam. Previously diagnosed with liver and kidney disease. Dental and OVH planned
Abnormal PE/Chem/CBC/UA Results: Mod Erath elevation of ALP ALT and cholesterol low protien

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder was mildly subnormal in size owing to lack of full urine distention. Sonographic assessment of the urinary bladder walls was limited somewhat owing to lack of urine distention yet no overt evidence of inflammatory or neoplastic criteria was noted. No obvious sediment or calculi was noted. The urethra exhibited normal structure and tone to a depth of 2.0 cm.

No overt pathology was noted in the area of the uterus or bilateral ovaries. The left ovary subjectively measured 0.56 cm in diameter. The right ovary subjectively measured 0.51 cm in diameter.

The area of the aortic trifurcation was free of pathology.

Normal size and margination were present in the kidneys. A normal 1:3 cortex / medulla ratio and was maintained with adequate corticomedullary border demarcation. Pinpoint to focal areas of medullary mineral were noted in both kidneys. No evidence of pyelectasia was noted. The left kidney measured 4.5 cm in length. The right kidney measured 4.6 cm in length.

Adrenal Glands

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.45 cm width at the cranial pole and 0.32 cm width at the caudal pole. The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.55 cm width at the cranial pole and 0.30 cm width at the caudal pole

Spleen

The spleen exhibited a finely textured and homogenous parenchyma which was hyperechoic to the liver and renal cortical parenchyma. The capsule was smooth and regular without apparent expansion. The splenic vasculature at the hilus was normal in volume with no evidence of congestion or thrombosis. Acute to chronic inflammatory, neoplastic, or benign parenchyma changes were not noted.

Liver/ Gallbladder

The liver exhibited subjective mild subnormal hepatic size with symmetrical capsule contour, generalized mild uniform increased parenchyma echogenicity compared to the falciform fat and isoechoic to mildly hyperechoic compared to the spleen. The gallbladder was non-distended in size containing mild, dependent to nondependent, mildly hyperechoic gallbladder debris. No evidence of gallbladder or peripheral gallbladder inflammatory criteria was noted. The cystic and common bile ducts were normal.

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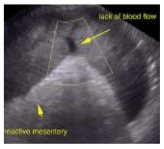
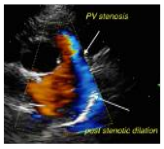
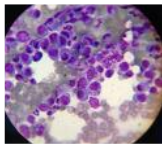
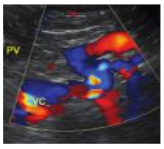

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Gastrointestinal

The stomach presented intact wall layering with a normal wall layer ratio. The lumen of the stomach was empty with no signs of ileus, obstruction, or foreign material.

The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. The lumen of the small intestine was empty with no signs of ileus, obstruction, or foreign material.

Normal visible colon wall layers were present with apparent formed feces in lumen.

Pancreas

The parenchyma of the left limb, body, and right limb of the pancreas presented isoechoic to the adjacent omental fat. A normal curvilinear capsule contour of the pancreas was present. The visible pancreatic duct was normal. No signs of active inflammation or neoplastic disease were evident.

Free Abdomen

No overt lymphadenopathy or peritoneal effusion was present.

ULTRASONOGRAPHIC FINDINGS

- Subjective subnormal liver size exhibiting mild parenchyma hyperechogenicity
- Mild gallbladder debris (non-mucocele)
- Bilateral mild pinpoint to focal renal medullary mineralization

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The hepatic presentation including subjective mild subnormal hepatic size is nonspecific with considerations including inflammatory hepatopathy i.e., hepatitis / cholangiohepatitis, vacuolar hepatic changes, nonobstructive cholestasis, or other hepatopathy. Potential for portal hypoplasia / microvascular dysplasia or non-visualized small portosystemic shunt cannot be definitively excluded.

Further assessment including bile acids to assess hepatic functionality, screening hepatic FNA with potential identification of inflammatory cell type if present, +/- Leptospirosis titers / PCR could be considered. Assessment of hepatic functionality Is recommended prior to potential anesthesia.

If clinical concern for a portosystemic vascular anomaly, advanced imaging such as Gold Standard CT with contrast may be indicated. Alternatively, assuming normal clotting status, hepatic surgical biopsy could be considered at time of ovariohysterectomy, and if no anesthetic contraindications.

Further renal staging to include urine C/S and protein: creatinine ratio on sterile urine sample may be considered.

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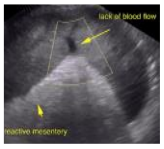

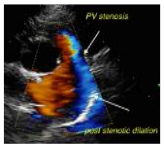

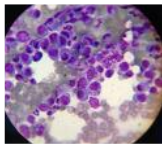
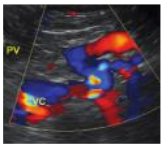

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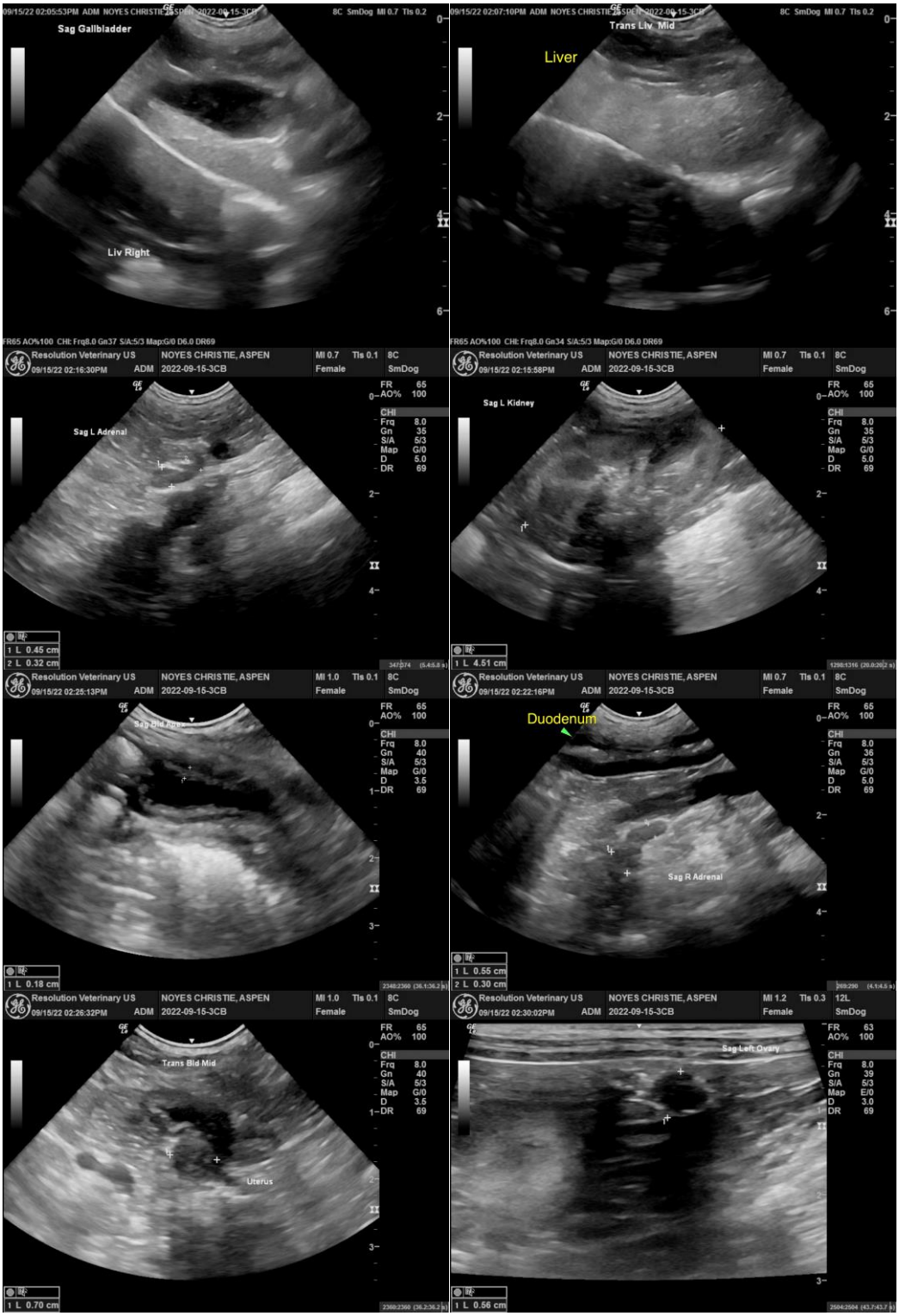

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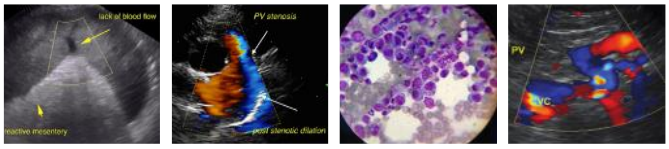

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

R. McKenzie Daniel, DVM, DABVP (Canine / Feline Practice)
info@SonoPath.com