

**PATIENT**

Violet Schwab

**SPECIES**

Canine

**BREED**

Cavalier King Charles  
Spaniel

**SEX**

FS

**AGE**

3 yr 9 mo

**WEIGHT**

19.6 lb

**INTERPRETED BY**

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

**IMAGING  
PERFORMED BY**

Pamela Harrigan, RDMS

**HOSPITAL NAME**

Dr Pam Harrigan  
(PAUS)

**REFERRING VET**

Casey Schuelke, DVM

**INVOICE**

17040

**DATE**

8/26/22

**PRESENTING CLINICAL SIGNS**

Presenting for acute onset of diarrhea for 7 days then vomiting the past few days, anorexia, lethargy. No change in food or known toxin ingestion. No antifreeze access. On presentation was dehydrated but no other findings on exam. Nonpainful. SnapCPL was abnormal despite normal lipase, moderate azotemia was noted that increased on IVF (1.5x maintenance decreased fluid rate due to possible fluid overload and kidney values remained stable on 8/25 no changes despite fluid rate changes. Lepto Witness was negative but Lepto PCR pending (not vaccinated for Lepto). Radiographs - lack of detail in cranial abdomen/ around kidneys. UA - Pyuria (WBC15-20 but clumping) RBC 30-50, Glucosuria (normal blood glucose), 1+ protein but active sediment. SG 1017 Urine Culture Pending. Concern for pyelonephritis but want to make sure no ureter obstruction/stones. Baytril 1.7ml (22.7mg/ml) q24 Cerenia 0.9ml q24 Unasyn 0.6ml q8 hours Sucralfate 0.5g q8 hours Protonix 2ml q24 hours  
Abnormal PE/Chem/CBC/UA Results: Creatine 5.4, BUN 78, Phosphorus 7.0, K 3.4, ALT 303 (was 652) SNAPcpl abnormal. UA results see above

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

The urinary bladder, trigone, cystourethral junction, and visible pelvic urethra to a depth of 2.0 cm exhibited normal thickness and tone. Anechoic urine was present in the lumen with no uroliths or sediment. The ureteral papillae were normal. The ureters were not visible which is normal. No evidence of inflammatory or neoplastic changes was noted.

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 normal corticomedullary definition were maintained. The echogenicity of the cortex was similar to or slightly less than normal liver parenchyma while the medulla echogenicity was hypoechoic to the cortex. Mild pyelectasia was present in both kidneys. No evidence of left or right ureter dilation or left or right hydroureter. Mild evidence of retroperitoneal inflammation, exhibited by increased retroperitoneal echogenicity and mild retroperitoneal free fluid. Potential for concurrent minor left and right peritoneal free fluid possible. The left kidney measured 5.4 cm in length. The right kidney measured 4.6 cm in length.

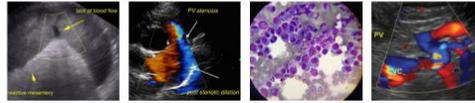
**Adrenal Glands**

The left adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The left adrenal gland measured 0.48 cm width at the caudal pole and 0.48 cm width at the cranial pole.

The right adrenal gland was uniform in size and contour with a uniformly hypoechoic parenchyma. The right adrenal gland measured 0.41 cm width at the caudal pole and 0.56 cm width at the cranial 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.



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***Liver/ Gallbladder***

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The liver was subjectively normal in size, structure, and contour. The liver parenchyma was uniform and hypoechoic to the spleen with a mild coarse echotexture. The hepatic and portal vasculature were normal in appearance without signs of congestion.

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The gallbladder was non distended in size with mild nondependent mildly hyperechoic debris. The gallbladder walls were sonographically normal. No evidence of gallbladder or peripheral gallbladder inflammation. The cystic duct and common bile ducts were normal without evidence of dilation.

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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 gastric body wall measured 0.34 cm.

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The small intestine presented intact wall layering with 1:3 muscularis/mucosa ratio. Mild duodenojejunal segmental chyme was present. The duodenum wall measured 0.34 cm. The jejunum wall measured 0.27 cm.

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The colon was primarily empty with mild intact yet mildly prominent descending colon walls.

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***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.

**INTERPRETED BY**

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**ULTRASONOGRAPHIC FINDINGS**

- Acute nephropathy with mild bilateral pyelectasia- no evidence of left or right hydroureter
- Concurrent left and right retroperitoneal inflammation and mild retroperitoneal to regional peritoneal free fluid
- Mild gastroenterocolitis pattern
- Low grade hepatopathy with mild gallbladder debris

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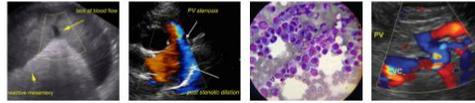
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**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Considerations for the bilateral kidneys may include acute renal insult, infectious disease, i.e., pyelonephritis, leptospirosis, or other nephropathy. Concurrent dietary indiscretion or metabolic gastroenterocolitis, owing to azotemia could be considered. No overt evidence of active pancreatitis. Low grade concurrent hepatitis, given the ALT elevation, with potential concurrent nonobstructive cholestasis, given the presence of gallbladder debris, is possible. Correlation with pending urine culture and sensitivity and Lepto PCR is recommended.

Empirically, hospitalization with continued appropriate IV fluids, gastroprotectants and hepatosupportive medications with monitoring of renal response and ALT levels, going forward, is



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recommended. Recheck sonogram may be considered for further assessment of the kidneys and liver, and for evidence of increasing retroperitoneal to peritoneal free fluid pending clinical response.

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Assessment for possible grape/raisin exposure could be considered if clinically indicated.

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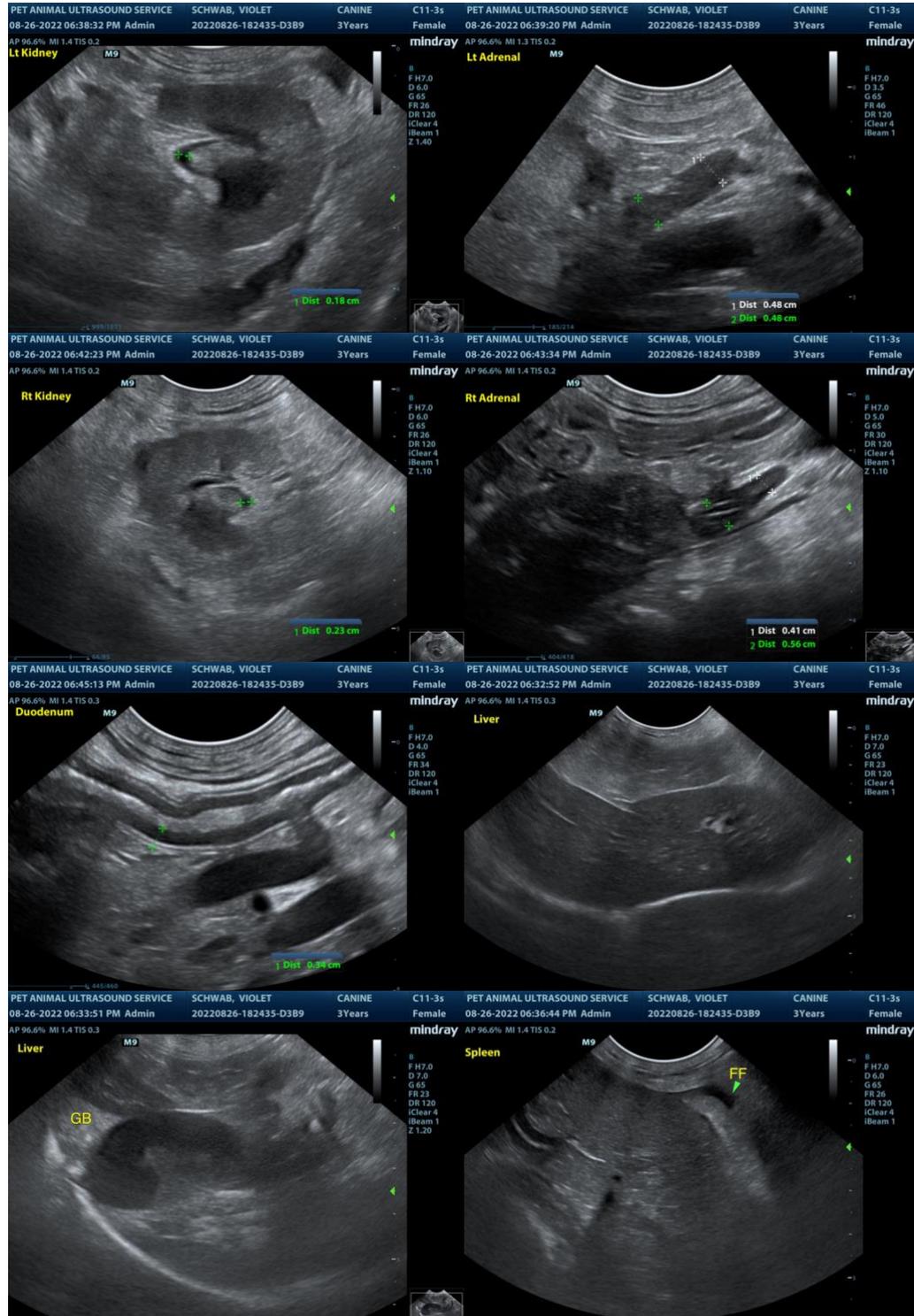
Casey Schuelke, DVM

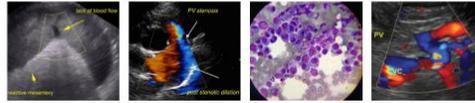
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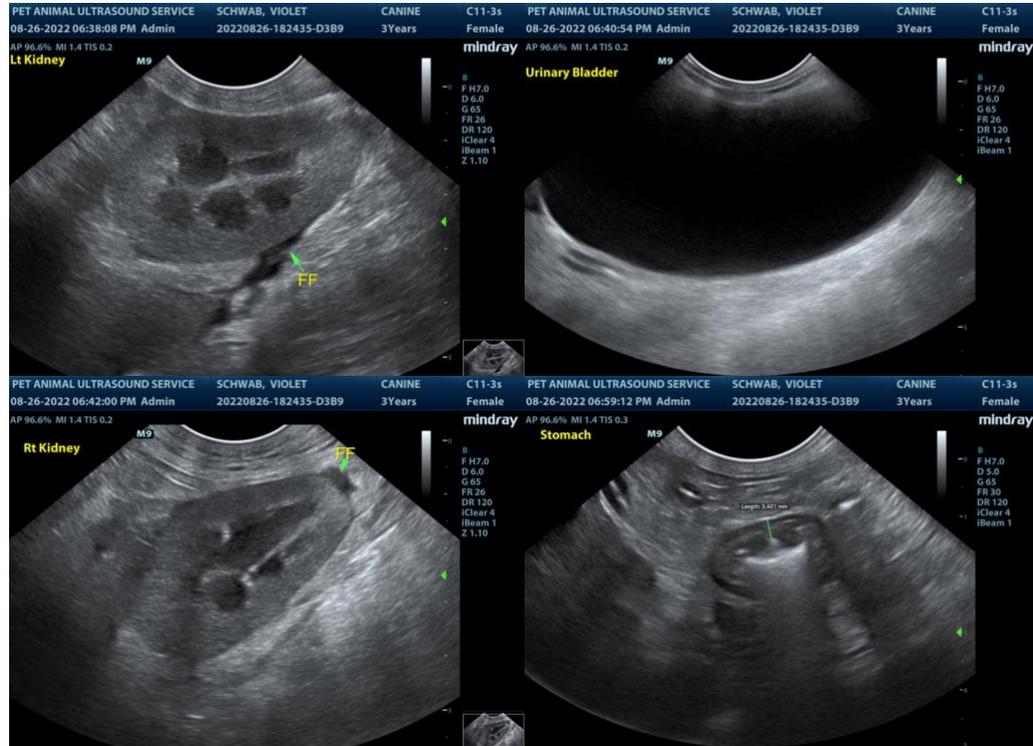
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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