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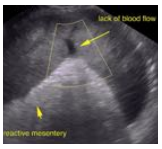

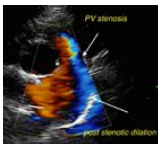

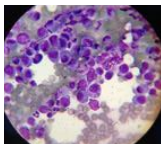
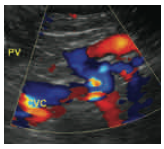

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1-800-838-4268 info@sonopath.com

PATIENT

Cooper Shrader

SPECIES

Canine

BREED

Miniature Schnauzer

SEX

Neutered male

AGE

2 years

WEIGHT

7.4 kg

INTERPRETED BY

Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Erin Wicks

HOSPITAL NAME

Shores VEC

REFERRING VET

Dr. Slenbaker

INVOICE

96792

DATE

3/11/22

PRESENTING CLINICAL SIGNS

History: Presented at our hospital for Saturday started with some PU/PD and dribbling urine, that got better. Monday started with dark mucous diarrhea and vomited once, more D+ Wednesday. Not eating well since Monday. Had a grandma seizure today that lasted about 20 seconds at 10:50am. (was seen at RDVM Wednesday and had sent out full BW that they got back today) Previous Health Concerns: HE in October Current Medications: Sucralfate, omeprazole, metronidazole Abnormal PE/Chem/CBC/UA Results: Cardiovascular: no murmur heard, tacky mm, est 5-8% dehydration Abdominal: ropey intestinal feel, non-reactive rDVM 3/09 BW: Total protein 3.6 L, Albumin 1.8 L, AST 510 H, ALT 366 H, ALP 138 H, Creat 0.3 L, Phosphorus 6.2 H, BG 60 L, Calcium 7.5 L, Cholesterol 65 L, normal PSL, WBC 21.5 H, HCT 59% N, rDVM 3/09 Urine: 1.005 USG, quiet sediment rDVM 3/09 Flex 4: negative x 4 BG upon arrival at SHORES: 95 Liver panel: Albumin 1.5 L, ALT 194 H, GGT 17 H, Total bilirubin 0.9 H EPOC: Na 130 L, K >12 (ratio 10), failed to read Ca, Lactate 3.35 H, BUN 5 L, Creat 0.3 L, BG 80, HCT 42%N Cortisol: 5.4 (verified and was 5.2) Lepto Witness test: negative Blood pressure: R forearm, 3.5 cm cuff: 115/70 (85); 142/79 (96); 124/50 (74)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. Bladder sand was noted and non-obstructive. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The **kidneys** appeared swollen and mildly vascular. The right kidney measured 5.77 cm. The left kidney measured 5.32 cm.

Adrenal Glands

Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 0.5 cm and the right adrenal gland measured 0.42 cm.

Spleen

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

Liver

The **liver** was subnormal in size. An abnormal vessel was noted and was approximately 2.0 cm caudal from the portal hilus. Further imaging is recommended as underlying extrahepatic shunt is suspected. The gallbladder and common bile duct were unremarkable.

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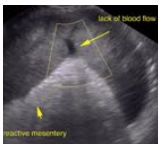

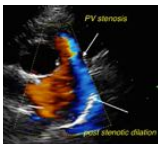

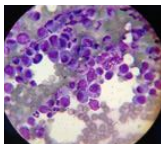
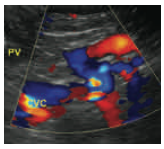

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Gastrointestinal

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. Soft stool was noted in the colon. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

Pancreas

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

ULTRASONOGRAPHIC FINDINGS

Microhepatica. Irregular vessel caudal to the portal hilus. Bladder sand.

Swollen kidneys.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

I suspect extrahepatic portosystemic shunting. However, further imaging is necessary. CT with contrast is ideal. The portal vein was not visible likely owing to being small. Bile acid profile is warranted. The prognosis is guarded given the low albumin and low BUN. Presuming bile acids are elevated the following medical management is recommended until further imaging and eventual surgical intervention can be performed.

Hepatic Support for Bile Acid Elevation +/- Hepatic Encephalopathy

Royal Canin Hepatic Support diet or Hills L/D, **Metronidazole** (7.5 mg/kg PO bid) over the next 14 days, **Lactulose** (Oral: 3.1-3.7 g/5 ml lactulose in a syrup base) long term to target 2-3 soft stools/day, with a **high-quality protein supplement** of minor amount of **yogurt** or **cheddar cheese**. Monitor bile acids, with attention paid to dropping albumin, BUN or cholesterol. SAMe and nutraceuticals as needed. **Ursodiol** (10-15 mg/kg p.o. q24h) can be considered as hepatoprotectant and to enhance bile flow. **Zinc** serum level keep between 200—500 ug/dl. If deficient then Tx zinc acetate 1-3 mg/kg/day. Gastrointestinal protectants are recommended if the patient is anorexic.

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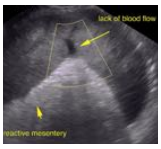
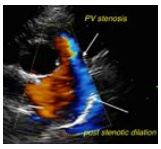
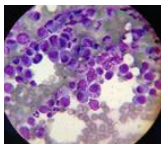
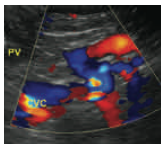

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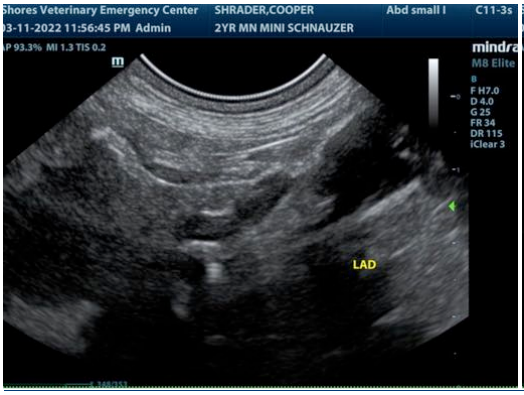

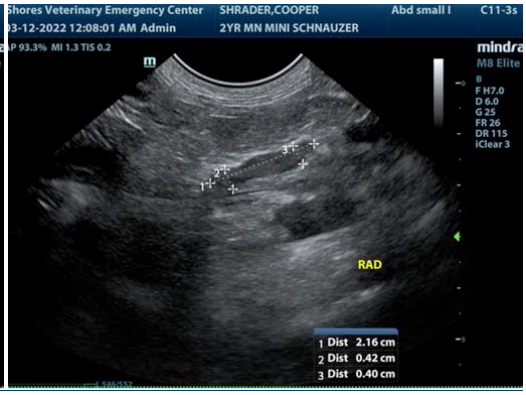

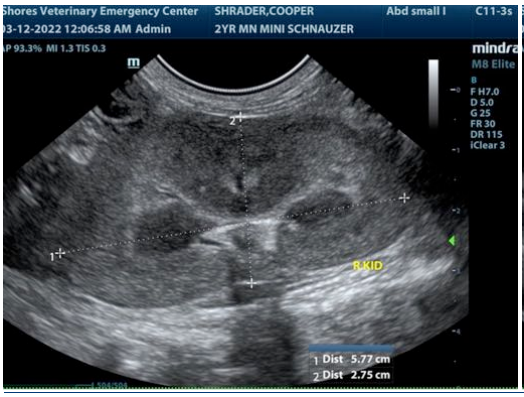

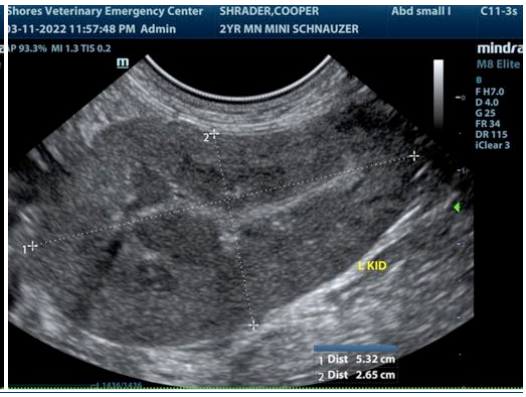

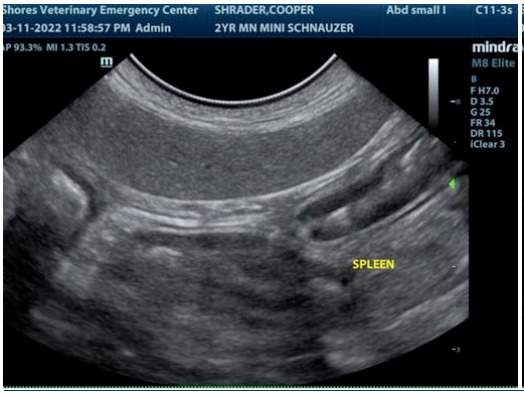

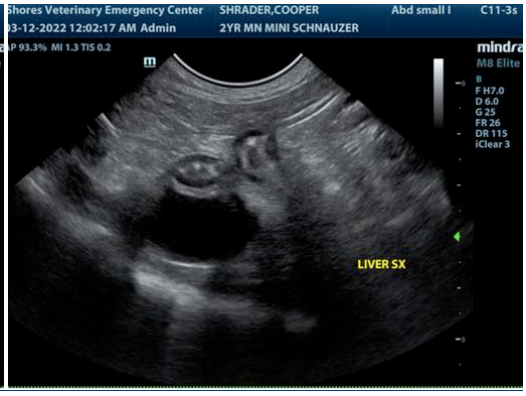

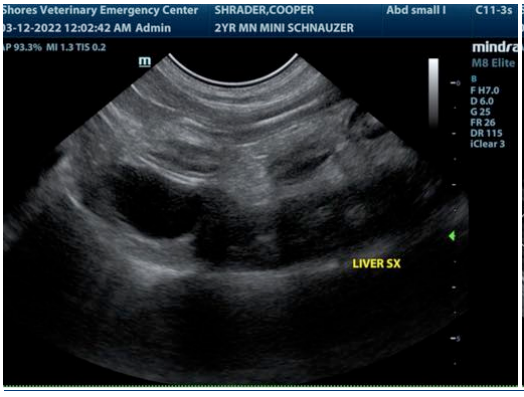

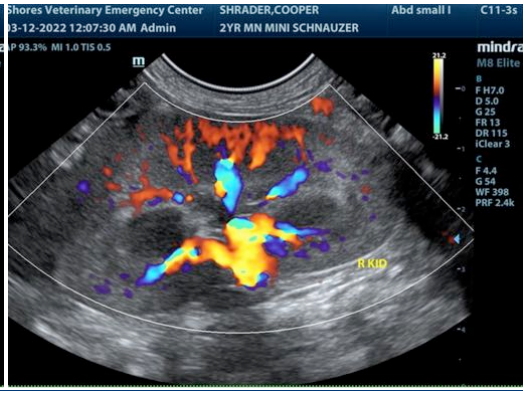

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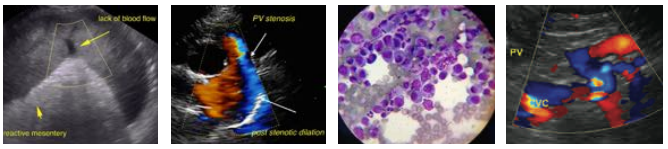

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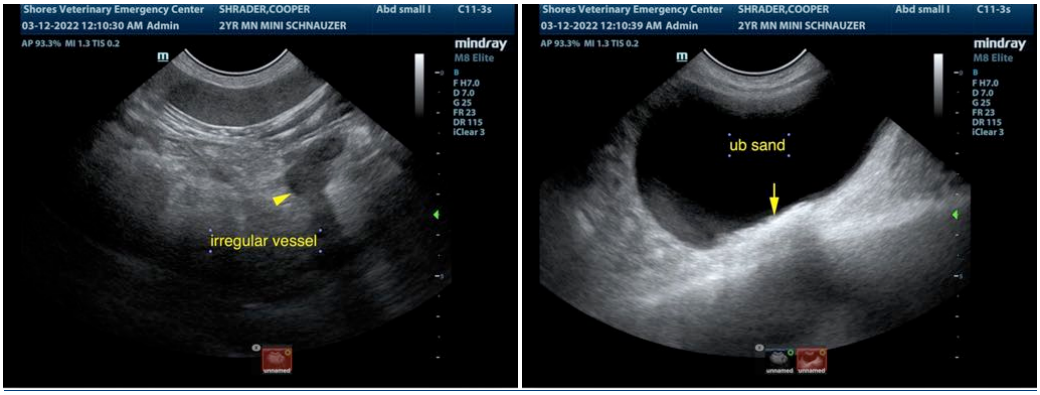

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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.

Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com
info@SonoPath.com