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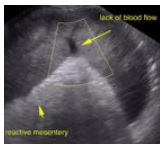
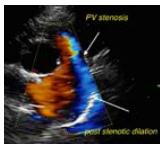
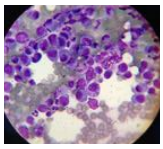
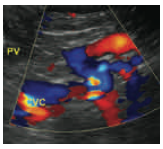

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Blake Jones

SPECIES
Canine

BREED
German Shepherd

SEX
Intact male

AGE
12 weeks

WEIGHT
14 lbs

INTERPRETED BY
Eric Lindquist, DMV DABVP, Cert. IVUSS

IMAGING PERFORMED BY
Potomac Mobile Veterinary Ultrasound

HOSPITAL NAME
Cascades Pet Hospital

REFERRING VET
Dr. Jarrett

INVOICE
94177

DATE
11/29/21

PRESENTING CLINICAL SIGNS

History: 3 week history of hematuria. Clavamox given for 3 weeks. Culture was negative. Drooling, acting strangely. Intermittent severe lethargy; very active one minute, the next minute weak and passing out. Rapid breathing. Normal heart sounds. Very thin body condition.
Abnormal PE/Chem/CBC/UA Results: CBC- WBC 22, Lym 5.56, Ne 14.91. MCH 18.8, MCHC 29
Chem ALP 574, ALT 133, TP 4.3, Albumin 3.4

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The **urinary bladder** revealed a 0.57 cm calculus with suspended debris and minor bladder wall calculi. A slight amount of sand was noted in the bladder.

The prostate was uniform and measured 1.43 x 0.92 cm.

The **kidneys** appeared subjectively swollen, yet were normal in size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex. The capsules were acceptably uniform without significant irregularities. Slight pyelectasia was noted in both kidneys. The left kidney measured 6.12 cm. The right kidney measured 6.38 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 2.12 x 0.43 cm at the caudal pole and 0.31 cm at the cranial pole. The right adrenal gland measured 1.46 x 0.64 cm at the cranial pole and 0.56 cm at the caudal pole.

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** appears subnormal in size, particularly in the right liver. Portal vein to vena cava ratio was 1:1 both of which measured 0.7 cm. There was no evidence of extrahepatic shunting present. However, the right liver appeared poorly developed. An irregular 0.8 cm abnormal vessel was noted in the right cranial liver. This appears to enter from the right branch of the portal vein into the vena cava or possibly from the central branch. This is strongly suspicious for right intrahepatic portosystemic shunt. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident.

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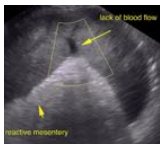

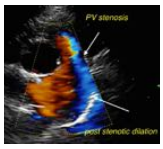

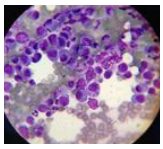
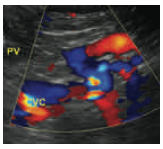

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Gastrointestinal

The **stomach** was filled with ingesta. The intestines were 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. 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

Swollen kidneys.

Bladder calculus.

Microhepatica, particularly in the right liver with strong suspicion for right branch intrahepatic portosystemic shunt.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

CT with contrast is recommended along with bile acid profile. Expect the post prandial bile acids to be well over 100. Assuming the bile acids are elevated the following clinical approach may improve the clinical signs temporarily.

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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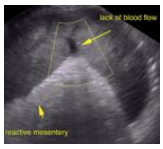
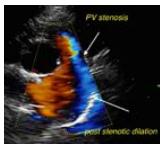
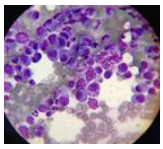
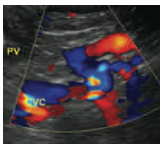

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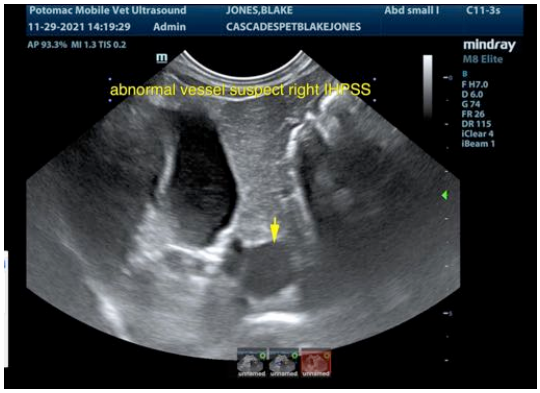

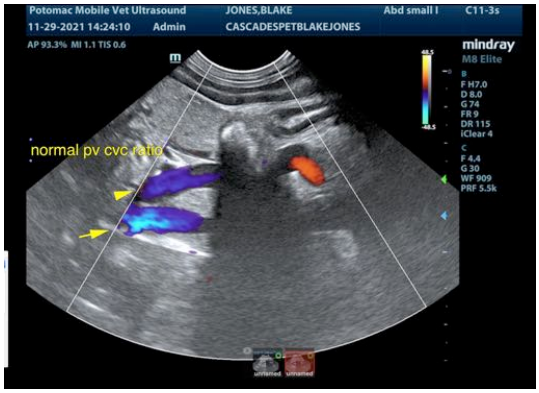

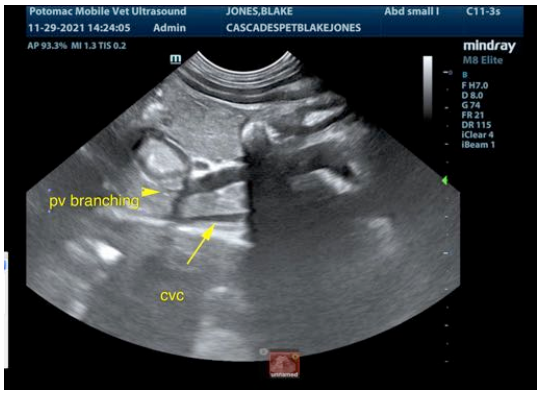

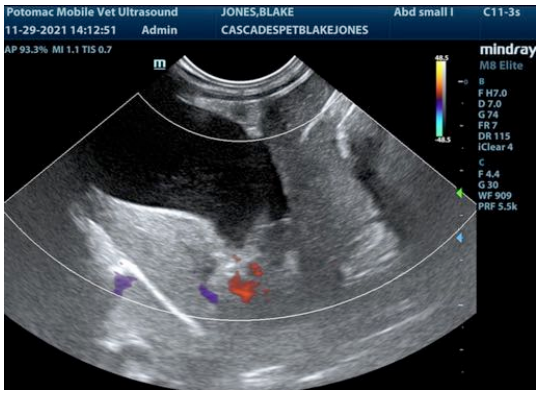
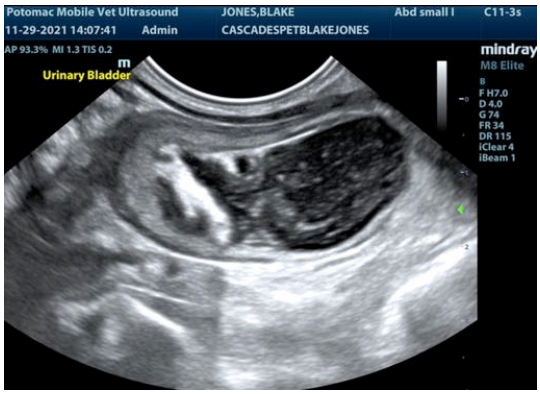

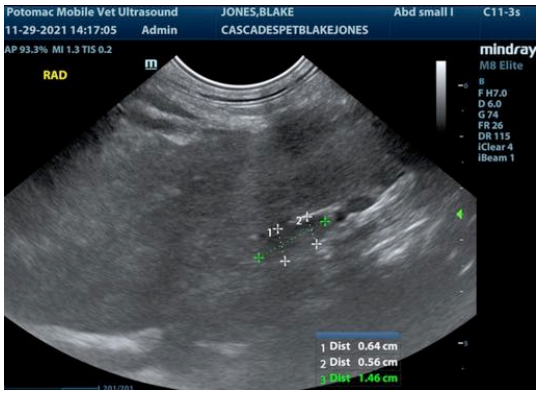

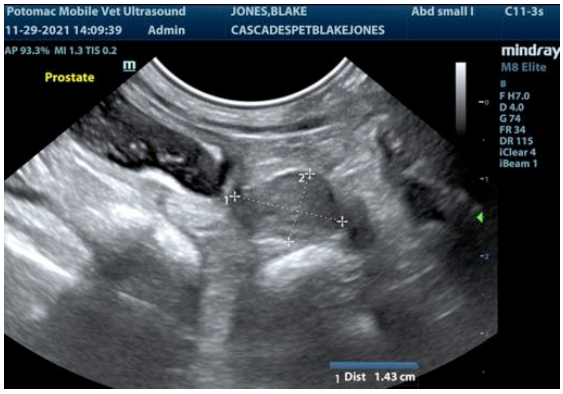

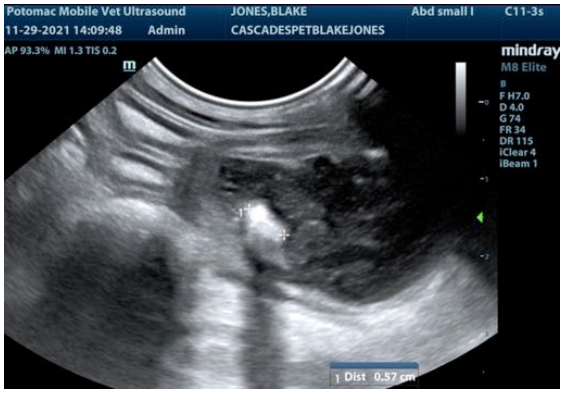

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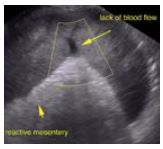
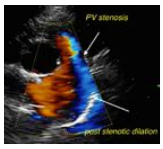
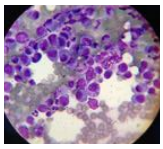
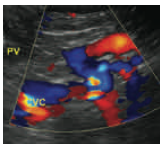

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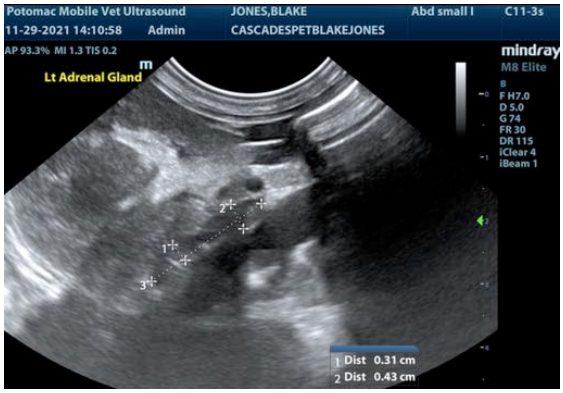

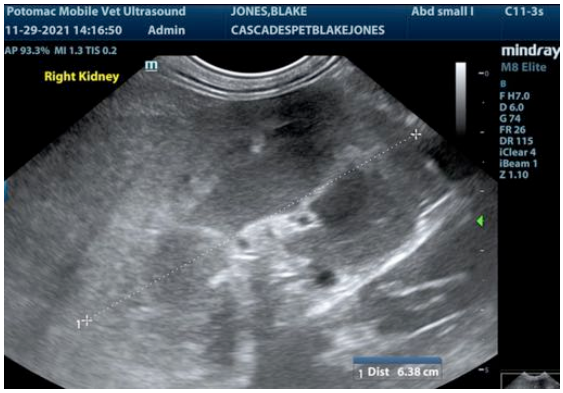

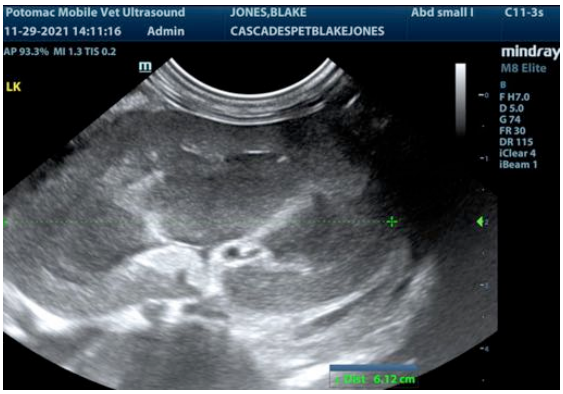

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The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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