



<b>PATIENT</b>	<b>PRESENTING CLINICAL SIGNS</b>
Whiskey Rush Coles	No current meds. Suspect Portosystemic shunt. Low RBCs, Low HCT, Low MCH, Low MCHC, elevated WBCs, High lymphocytes, Low platelets, Low creatinine, high phosphorous, Low albumin, Low globulin, High AST, High ALP, very high bile acids.
<b>SPECIES</b>	
Canine	
<b>BREED</b>	<b>ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN</b>
Nova Scotia Duck Tolling Retriever	<i>Urinary System</i>
<b>SEX</b>	The <b>urinary bladder</b> , trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.
Intact female	The <b>kidneys</b> were swollen and hypervascular. The left kidney measured 5.45 cm. The right kidney measured 5.11 cm.
<b>AGE</b>	<i>Adrenal Glands</i>
3 months	Both <b>adrenal glands</b> 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 1.44 x 0.66 cm at the cranial pole and 0.62 cm at the caudal pole. The right adrenal gland measured 1.33 x 0.6 cm at the caudal pole and 0.97 cm at the cranial pole.
<b>WEIGHT</b>	<i>Spleen</i>
15.2 lbs	The <b>spleen</b> 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.
<b>INTERPRETED BY</b>	<i>Liver</i>
Eric Lindquist, DMV DABVP, Cert. IVUSS	The <b>liver</b> was subnormal in size. The portal vein was subnormal in size. The vena cava was enlarged. The vena cava at the portal hilus measured 1.0 cm, aorta measured 0.76 cm and the portal vein measured 0.4 cm. The vena cava presented a large amount of turbulence just prior to the portal hilus and overloaded volume. Some gastric artifact interfered with the visibility of the region of an extrahepatic portosystemic shunt such as gastrocausal or splenocaval. The exact shunt cannot be identified, but is highly suspected. The gallbladder and common bile duct were unremarkable.
<b>IMAGING PERFORMED BY</b>	
Crystal Hill	
<b>HOSPITAL NAME</b>	
Beamsville AH	
<b>REFERRING VET</b>	
Dr. Hagar	
<b>INVOICE</b>	<i>Gastrointestinal</i>
96513	The <b>stomach</b> revealed fluid accumulation with minor thickening and possible low-grade gastritis. Gastric stasis was present in artifact in the fundus. The small intestines and colon were unremarkable.
<b>DATE</b>	
3/1/22	



**PATIENT**

Whiskey Rush Coles

**SPECIES**

Canine

**BREED**

Nova Scotia Duck  
Tolling Retriever

**SEX**

Intact female

**AGE**

3 months

**WEIGHT**

15.2 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING  
PERFORMED BY**

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**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**

Subnormal portal vein. Enlarged vena cava.

Microhepatica.

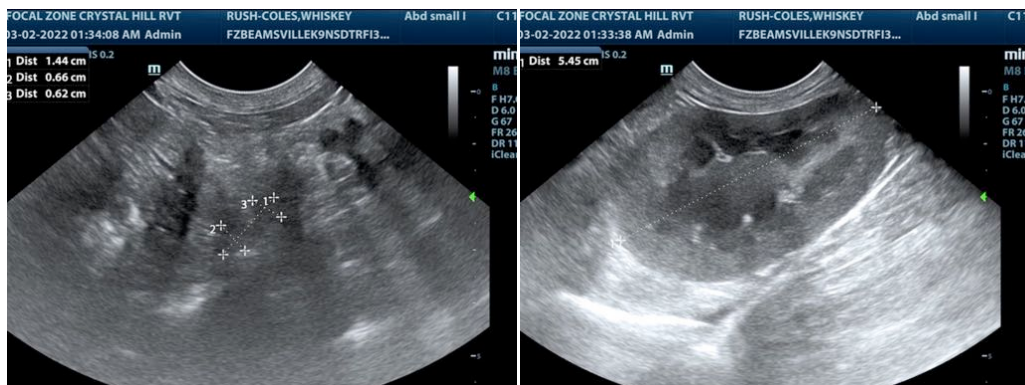
Hypervascular and swollen kidneys.

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The changes are strongly suggestive for an extrahepatic portosystemic shunting. I suspect splenocaval or gastrocaval shunting. Further imaging could be attempted at n.p.o. status. However, CT with contrast would be ideal.

**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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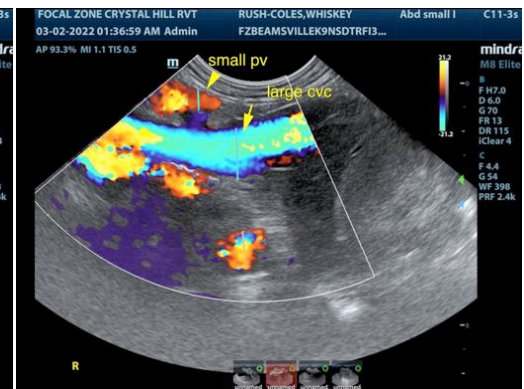
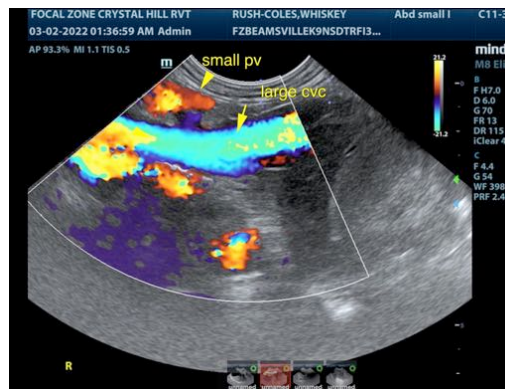
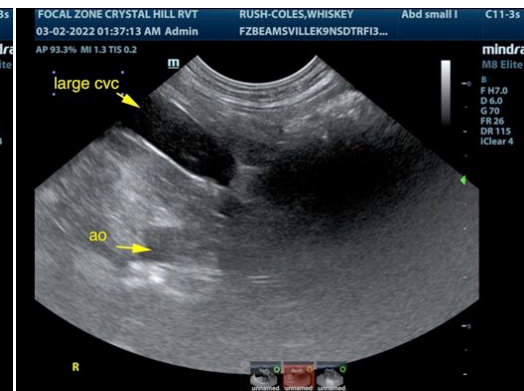
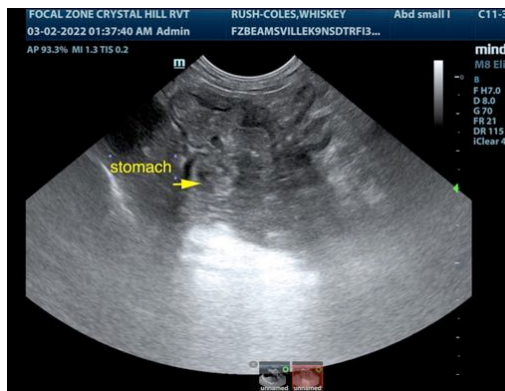
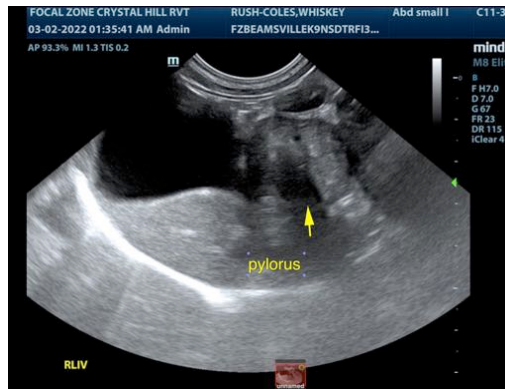
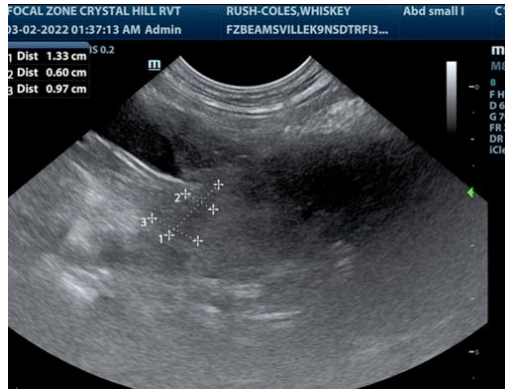
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## BREED

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Tolling Retriever

## SEX

Intact female

## AGE

3 months

## WEIGHT

15.2 lbs

## INTERPRETED BY

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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**  
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