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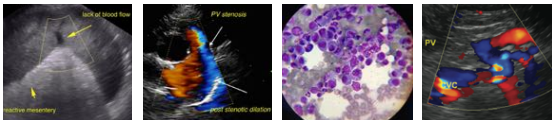


ANIMAL SOUNDS NW
MOBILE VETERINARY ULTRASOUND
IMAGING PERFORMED BY
AnimalSoundsNW.com 541-357-9423

PATIENT

Olivier VanRossmann

SPECIES

Canine

BREED

French Bulldog

SEX

Neutered male

AGE

2 years

WEIGHT

19.4 lbs

INTERPRETED BY

Eric Lindquist, DMV, DABVP, Cert. IVUSS

IMAGING PERFORMED BY

Jenna Walsh, CVT

HOSPITAL NAME

Alpine AH

REFERRING VET

Dr. Mills

DATE

8/8/23

Invoice

46490

PRESENTING CLINICAL SIGNS

History: Needed stenotic nares and soft palate correction, elected pre-op blood work and elevated ALT noted Primary Question/Differential to Be Answered in This Exam Is there a liver shunt, if so is it surgical or medical
ALT 957 on 7/17 Bile acids on 7/26 were elevated (Pre 77, post 49)

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. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

The residual prostate was uniform and measured 0.65 cm.

The **kidneys** revealed normal 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 and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 4.92 cm. The left kidney measured 4.9 cm.

Adrenal Glands

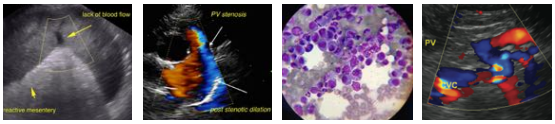
Both **adrenal glands** were visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The right adrenal gland measured 1.91 x 0.7 cm at the cranial pole and 0.86 cm at the caudal pole. The left adrenal gland measured 2.51 x 0.49 cm at the cranial pole and 0.73 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** revealed normal uniform parenchyma with adequate vascular volume. Mild microhepatica was noted. Portal vein and vena cava ratio was 1:1. Intrahepatic vascular volumes were normal. Branching of the portal vein was normal. The portal vein measured 0.7 cm prior to the bifurcation. The vena cava



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was normal at 0.7 cm. There is no evidence of intrahepatic shunting. The gallbladder and common bile duct were unremarkable.

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. 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

Mild microhepatica with no evidence of intrahepatic or extrahepatic shunting.

Normal portal vein to vena cava and portal vein to aortic ratios. Normal intrahepatic vascular volume.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Given the ALT elevations subacute insult such as Leptospirosis, toxin exposure or similar is likely occurring in this patient, which may is likely playing a role in the bile acid elevations. I recommend Leptospirosis titers, liver oriented diet, Ampicillin and Metronidazole combination could be considered as well as reassessment of the bile acids over the next 4-6 weeks. If they remain elevated then core liver biopsy, surgical or laparoscopy guided biopsies would be appropriate to assess for portal hypoplasia/microvascular dysplasia. However, recent subacute insult may be driving the bile acids on its own owing to subacute phase disease or this may be combined with portal hypoplasia/microvascular dysplasia, which is a biopsy diagnosis.

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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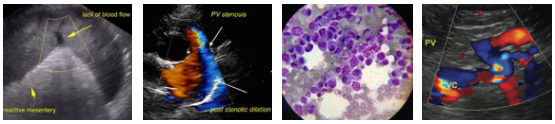

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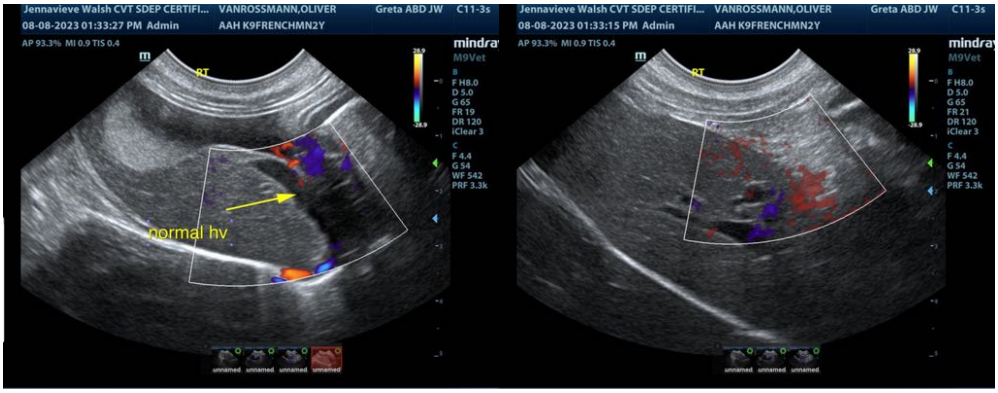

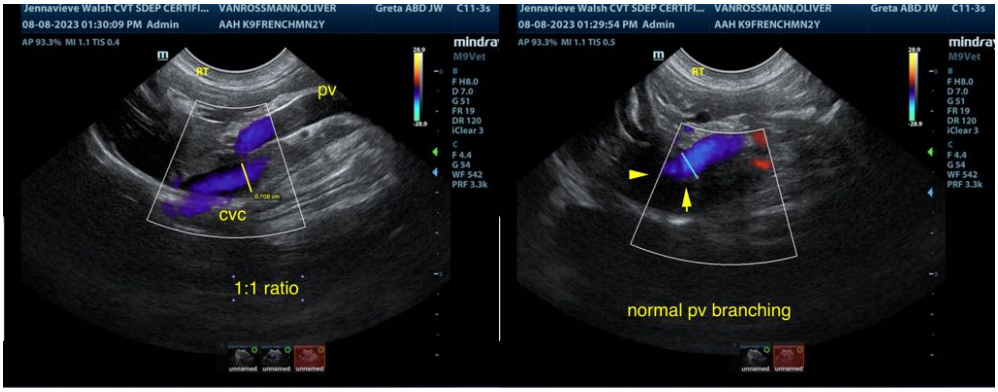

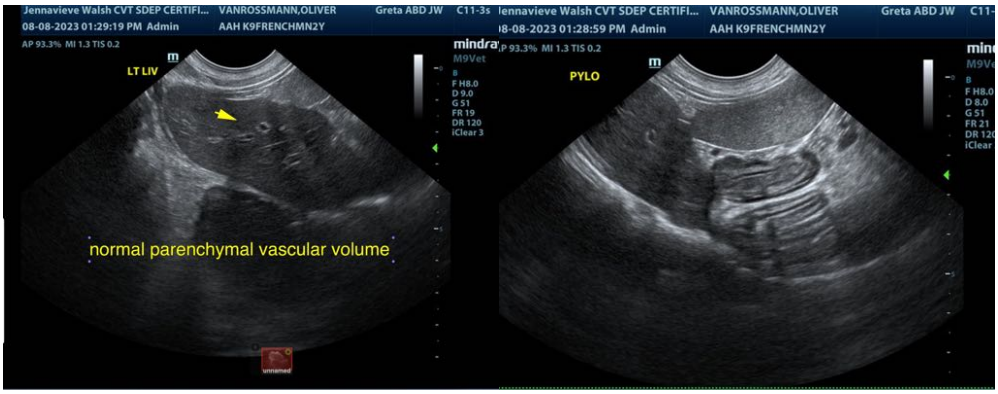

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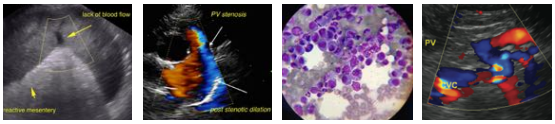

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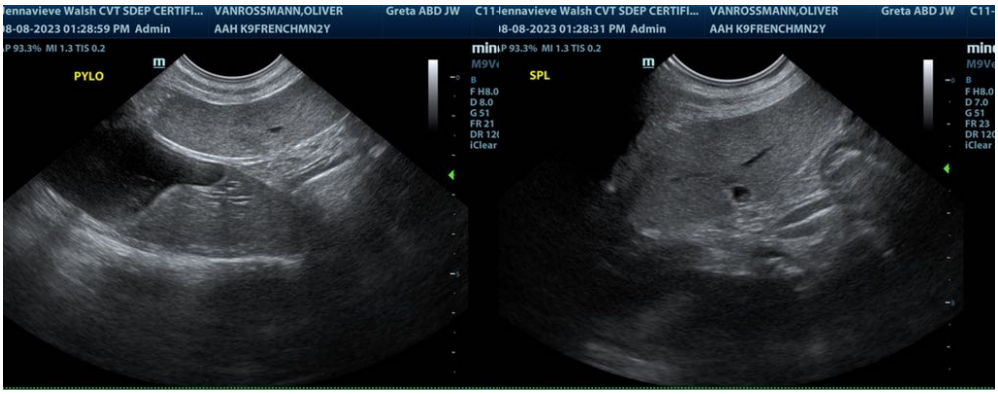

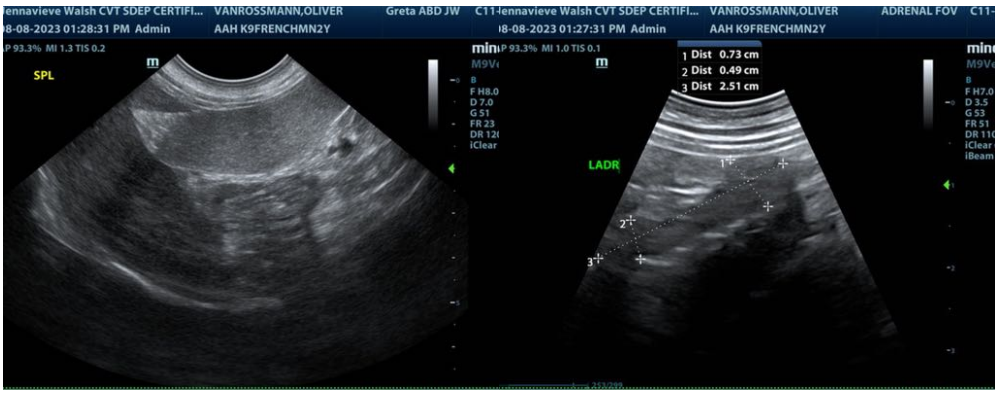

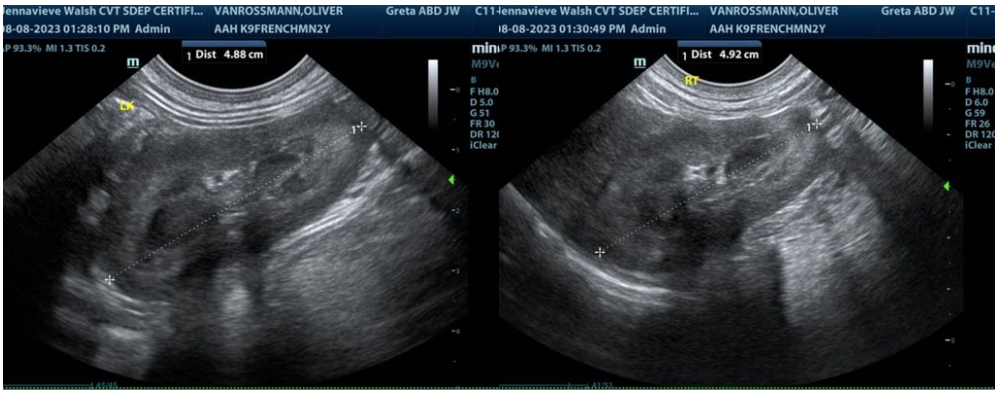

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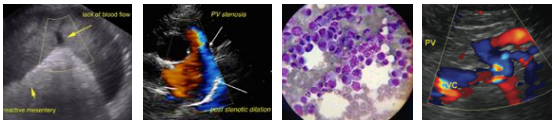

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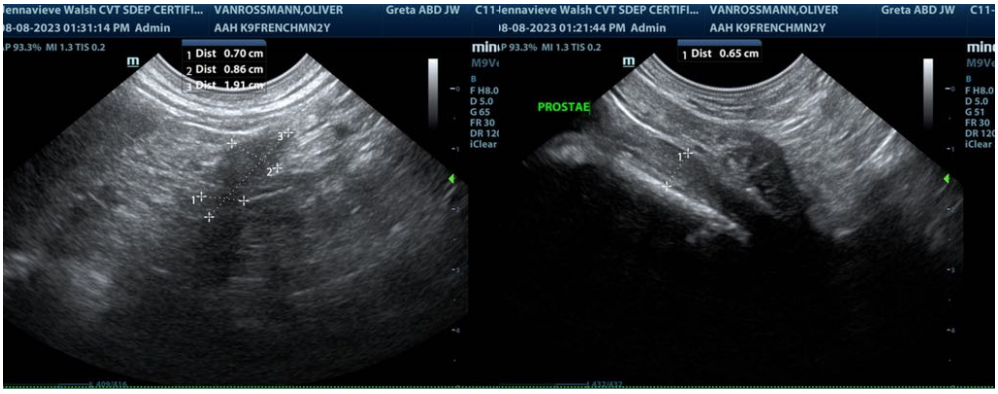

The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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